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ORIGINAL ARTICLES.

MEMOIRS.

THE STUDY OF OLDER MEDICAL WRITINGS.*

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THERE is a tendency in these hurrying modern times to seize upon that which is new and quickly to forget the old. In religion we hear of a higher criticism and a new theology. A teacher of forty declared to me that another teacher, a psychologist, a man of fifty, had not kept up with the times and did not possess the faintest conception of what is meant by modern psychology. Sociology of twenty years ago makes the student of present social conditions smile. Methods of warfare of a generation back seem ridiculous now. The artisan apprentice in order to secure employment gives up his trade and takes to running a machine only to find in a few years that a still more recent invention again necessitates a change of labor. We open the paper in the morning and are so accustomed to the announcements of wonderful achievements that we are but little surprised when we learn of telegraphic communication through miles of space with no guiding wire. A new novel is hurriedly written, extensively advertised, sold by the tens of thousands, read by hundreds of thousands, and in a year is nearly forgotten, a new candidate for present popular favor having appeared. Invention, innovation, advance, research, discovery, rapid adaptation characterize the age.

Medicine shares, and takes no inconsiderable part, in creating this ozonized atmosphere of activity. New facts are being constantly put before the medical student until he feels, when he leaves school, that he will have a hard time indeed to keep pace with the advance of modern discovery. He no sooner learns the rudiments of bacteriology and its application in aseptic surgery and practical diagnosis than he is tortured by the necessity of attempting to solve the mysteries of the bewildering facts of physical chemistry and the newer hematology. He must be on the alert for new remedies, new methods of treatment, new aids to diagnosis, new facts in the etiology and pathogenesis of disease, and he plans to have the latest text-books, the most wide-awake medical journals, the most approved instrumental and laboratory armamentarium so that he may be quick to grasp and apply the very latest knowledge.

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*Read at the meeting of the WASHTENAW COUNTY MEDICAL SOCIETY held at Ann Arbor, Michigan, December 17, 1902.

Now all of this is right and necessary; this spirit is to be encouraged. But growing out of this seeking after the new there is a tendency not altogether praiseworthy, to forget or ignore, if not absolutely despise, the past. Many of the modern achievements are but the stages in a process of evolution whose earlier history is not without interest and value, and which earlier history deserves to be studiously considered. And in this paper I wish briefly to discuss the importance to the student and physician of an acquaintance with older standard medical literature. In a medical sense, I suppose, literature of twenty years ago is old.

I trust that in acknowledging at the outset the importance and necessity of a careful study of recent literature I may not be charged with being one-sided and nonprogressive. I do not wish to be regarded as the *laudator temporis acti* nor even as giving the politic advice of Pope to hold the middle and supposedly safe position of the trimmer,—

> " Be not the first by whom the new are tried,
> " Nor yet tne last to lay the old aside."

One may and often should do both, hold fast that which is good in the past while reaching out for that which is true, beautiful and permanent in the future. Nor do I overlook the fact that one of the most desirable yet hardest things is to forget, to forget faulty methods, wrong conclusions, and to rid the mind of rubbish, worn out and effete material, so as to make room for that which is fresh, life-giving and worthy of remembrance.

I believe that I am speaking on a subject that will, in the near future, be more generally recognized as of value than at present. There is, I think, a revival of interest in older medical writers, their lives and their work. Societies are formed for the study of medical history, biographies of noted physicians are frequently appearing, shorter biographical sketches are made the subject of addresses, the earlier medical history of societies, colleges and towns is hunted up by some interested physician who turns from his regular daily routine of work along modern lines to make an excursion into some forgotten nook or corner of the medical world, and feels enjoyment, relaxation and invigoration as he investigates the lives and writings of medical worthies of the past.

Why should one read any of the older medical writers? We cannot claim for them as we can for the great writers of polite literature that their works are for all men and for all time. So far as the medical writer treats of facts correctly observed and accurately reported his contribution has a permanent value. But these facts were seen only in the light of the time in which he lived. New facts and new principles seen by clearer light throw the old facts into the shade. The book loses, therefore, much in intrinsic value. Classic polite literature dealing with human nature, the customs of the age and with imperishable and unchanging things such as truth, love, beauty is, the best of it, as valuable today as years ago. Homer, Dante, Schiller, Balzac have written for all time. But there were giants in medicine fifty and a hundred years ago, yes, even centuries ago. And contact with minds like those of Hippocrates, Sydenham, Rush, Laennec can but be beneficial. And it would be laughable if it were not almost sad, to see a young physician spending hours in reading weak articles in the medical journals, cheaply written, unscientific, based on poor or faulty observation, often reiterating in diluted form the ideas of some greater man, when that same physician might have the elevating inspiration of an evening's association with some of the master minds of the past. There are yellow medical journals and there is much of the dime novel and the Mary J. Holmes in present medical literature, vicious, trashy, wishy-washy stuff, and it is a mystery why students and physicians pore over this instead of reading the medical Thackerays, Hawthornes, Hugos or Goethes. For though every fact recorded by Hippocrates were false —which is not so—though Virchow's views on cellular pathology must be modified to fit in with later knowledge, though Bright's description of the kidney in disease is far from complete, the reading and the study of the writings of these men is as invigorating as a breath of sea air or a change of climate to the invalid. Merely to listen to the talk of an old man of strong, vigorous mind is an inspiration even though we may not believe all that he says. Who would not go today to hear Linnaeus speak on botany, or Darwin on evolution, or Kant on psychology, or Morse on the telegraph, though he knew he would hear much that was behind the times?

So, one reason for studying these older writers is that one is then in good company, is benefitted by this favorable environment and is strengthened by contact with these great minds.

But the inexperienced student turns to the new largely because it is new, and because there is a glamour about it that attracts, and he feels that anything that has the recent mark of freshness upon it is proper for study. In this way he wastes time in reading much that is mediocre, poor or even harmful, and this largely because he has had no training in discriminating between the good and bad in medical literature; he has no standard by which to judge. His medical literary taste has been poorly cultivated. He lacks judgment in such matters. I take it that one of the great benefits to be derived from reading standard medical authors, authors whose writings after the test of time can be called classic, is that it tends to elevate our ideals and makes us keener critics of the medical writing of the day. Read the masterly monograph of Koch on "Tuberculosis," terse, systematic, scientific, the result of an immense amount of research, epoch-making in its influence, its conclusions scarcely changed by twenty years of study and investigation by others—read this, I say, and see how tame will then appear much of the present magazine literature. Your taste has been improved, you are more exacting in your demands upon the writer whom you will read, your standard has been elevated. But so surely as we read only the weaker contributions of today, our tastes are depraved and our standards lowered. I would not be misunderstood. Good medical literature is abundant today. But our students have too little training in the ability to tell what is good and what is bad, the original from that which is worked over. Reading standard medical authors cultivates this power of discrimination.

Let me quote something that Latham wrote over sixty-five years ago. We shall see that our problem of how to select the best from the mass of medical writing is not a new one. And we must admit that what he says is as true today as it was in Latham's time, even truer when we consider the greater number of books and magazines that are yearly put forth. "In the shape of practical treatises our own age and country has bred, and is breeding, and the press is assisting at the birth of, the oddest and most worthless trash; and this often obtains a wide circulation, and a strange popularity. While you are watching various diseases. you cannot help feeling a desire to know what they have said concerning them, who have expressly written about them, and in your wish to read something, you are, without direction or warning, as likely to lay your hand upon a bad book as a good one; nay, more likely, for a bad book is generally a very easy book, having been composed by its author with no labour of mind whatever; whereas a good book, though it be not necessarily a hard one, yet, since it contains important facts, duly arranged, and reasoned upon with care, must require from the reader some portion of the same attention and study to comprehend and profit by it as it required from the writer to compose it. A good book, at all events, is never a very easy book, and never suddenly popular."*

Then again this will tend to overcome what is in some respects a pernicious habit, that of reading articles in epitome or abstract. Our journals are crowded with these abstracts, and some are made up of nothing else. With the multiplicity of articles it is of course a physical impossibility for one to read all, or any great proportion of all, articles, even of the good ones. But because this is so, it is unwise to rely too implicitly on abstracts. It leads to habits of superficiality; and it is a rare synopsis that gives us the substance and the spirit of the original. And this, perhaps, is not to be wondered at when we consider that the abstract is often made in a perfunctory way by a hack worker, who may or may not be a physician, and who has no interest in the subject beyond the mechanical performance of his set task of filling so many columns with the given material. And often the abstract is an abstract of an abstract. One solid article carefully read and thoroughly digested is worth many abstracts. And if time fails for the careful reading of an article I believe it is often better to read it hurriedly yourself, to skim it, than to trust too implicitly in the epitome made by another.

There is room for discussion on this topic of the medical abstract. I admit that it has a field of usefulness. I am no opponent of the year-books with their resumés of progress. But all these must be rightly written and rightly used or their influence is pernicious. It is a dangerous thing to teach the student to acquire his knowledge through a quiz-compend, a yearbook or an abstract. His training should be in the study of the original and in the making of his own abstract. Thus he will acquire the judgment, the laboratory knowledge, if you please, that will enable him to "size up" the abstract of another and to rate it at its correct value, and to know at a glance whether a given abstract contains what he desires to know or whether the article should be consulted in the original. Rightly used, these abstract columns of our journals become much more to us than catalogues or indices. But they ought not to be allowed to supplant the solid articles as the substantial mental pabulum.

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*Latham's Works, Volume II, page 43; New Sydenham Society, 1879.

If writers were to follow more closely the advice given by Virchow a short time ago in his strictures on present methods of medical composition; if they would condense, say what they have to say and stop, there would be less excuse than there is for the physician to read the abstract because he finds it impossible to read the long, wearisome articles with their bewildering mass of superfluous details.

It is, perhaps, objected that the older writings are obsolete and entirely out of date; that a ten years old text-book on a progressive science is behind the times and should be replaced by a more recent one. But the literature to which I refer is not text-book literature, not mere compilation, but monographs, the results of original work in research or clinical observation, literature that has been creative and epoch-making. Laennec's treatise on "Mediate Auscultation," Virchow's "Cellular Pathology" or "Tumors," Bright's original articles on the Kidney, Koch on "Tuberculosis," may serve as illustrations of this kind of writing, as far removed from the transitory magazine article or the made-to-order compilation called a text-book as is Handel's Messiah from the catchy street song of the day. There is a certain solidity to such writings that is difficult to define. But there are truths there announced that are imperishable, though modified as time goes on and new knowledge is acquired. Many of the facts first announced by Laennec are bound to be true for all time. Morgagné's morbid anatomy is, much of it, classic today and will remain so. The old Diener in the Vienna dead-house, who worked with the great Rokitansky, declares that little new is found at autopsies except microbes. Our fathers in medicine, with trained senses that were untaught to rely upon the aid afforded by instruments of precision, observed the phenomena of disease with a shrewd keenness that is not surpassed today. The facts as they observed them are as true now as then. We do well to turn occasionally to their pages to learn that all of diagnosis is not in the test-tube, the microscope or the incubator; that the eye, ear or finger if properly trained can detect much, and that in many cases the findings of the clinical or pathological laboratory must be combined with those of the educated but naked five senses and the whole interpreted by a logical mind, before the proper diagnosis or prognosis is reached.

One errs greatly if one imagines that it is impossible to learn from a writer of fifty years ago. Take the matter of disease of the heart for instance. Read Skoda, Bamberger, Flint, Walshe, with Laennec first, of course, and see if you do not learn as much as, or more than, from any modern text-book. Nearly all is there save bacteriology and, perhaps, the importance of the myocardium in a consideration of cardiac disease, and you merely have to change your point of view a little so that the new light strikes the picture right, and the old facts so clearly painted by these masters shine out all the more distinctly. When wishing to pass a quiet hour with profit and pleasure read some of Trousseau's clinical lectures, or try Charcot. You will be surprised to see how much you can learn from these sharp-eyed clinicians with the Frenchman's proverbial ability in expression, his power of "putting things." And there is a delight in coming upon something good in unexpected places that is like suddenly running across a bubbling spring in a wood. You will often find your own vague thought crystallized or some hint thrown out by the writer that clears up a point that has long been foggy in your mind. This fact was brought home to me the other day in reading some of Latham's writing on medical education. I had put together some thoughts on methods of teaching with special reference to the ward clinic. I had spoken my piece, had done my "stunt." Yet, in Latham I came across the whole subject discussed nearly three-quarters of a century ago, the place of didactic lectures, large clinics, ward clinics all considered and with splendid ideas, well put. And I had missed it. It is discursive, but I must quote from him now, for I lost the opportunity before my other audience. And it illustrates my point. I quote only a few sentences:

"I have always thought that hospitals are not converted to half the good they are calculated to serve as schools of medicine; and I think so still."

"I have always thought that, in hospitals, knowledge is perpetually running to waste for want of labourers to gather it; and I think so still.

"I have always thought that, in our schools, every mode of lecturing has been unduly exalted above clinical lecturing; and every place where knowledge is to be had, or is supposed to be had, has been unduly preferred to the bedside; and I continue to think so.

"Clinical lecturing * * * has been separated too much from the wards and the bedside, and has deviated into a discussion of abstract pathology and therapeutics."*

Surely there are medical teachers who might profit by reading these words of Latham, even though the book be out of date.

By the reading of these older writings there is obtained a knowledge of the history of medicine. I need not dwell upon the fact that this is of value. How inspiring to read the lives of many of the famous medical men of the past. One is enthused with the spirit of Boerhaave, the father of clinical medicine, whose labors made him so popular that when he recovered from a severe illness the houses were decorated and

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**Loco citato*, page 19.

the town illuminated. To see what Leeuwenhoek accomplished with slender means arouses one to renewed effort to do much with the advantage of better instruments and opportunities. And to think of what Laennec did and that he left an imperishable name though dying at forty-six!

One learns of the state of medical knowledge in earlier times and can trace step by step the advances that have been made down to the present. Knowledge is not of its full value until one knows how it has been acquired and at just what stage in the advancement of knowledge we have arrived.

And another point. It is often difficult to make the exact distinction between what is fact and what is theory. Text-book writers and lecturers too often make dogmatic statements as to facts when in reality they are merely voicing theories that they firmly believe to be true. When the student, a few years later, finds that the supposed fact is false, he grows skeptical and cynical as regards the science of medicine. Much of this can be avoided by a study of earlier history, thus tracing the development of theories, the gradual growth of knowledge and the establishment of facts. Fact and theory are thus clearly differentiated.

The history of medicine teaches how great results may follow apparently trifling causes. We see how no truly scientific observation, be it at the bedside or in the laboratory, is to be ignored, no matter how insignificant it may at the time appear to be. Its results may be far-reaching. Read the story of myxedema. It is interesting as a romance and it teaches a lesson as to the wonderful interdependence of the various branches of medical science and as to the value of the search for truth for the truth's sake, though the immediate results are not foreseen. For the knowledge of myxedema, as you know, came as the result of work by physiologists, surgeons, pathologists, clinicians, chemists, men working in many lands and with different objects in view, but their results fitting in so nicely with each other as to make a complete whole and to give help in the solution of the vexed question of the diseases and functions of the thyroid gland and to impart an impetus to the study of the whole subject of internal secretions. No physician can read such a story without feeling inspired and stimulated to work himself. When he reads Addison's description of disease of the suprarenal capsules, or Bright's account of the renal changes associated with dropsy and albuminuria, he rises with the renewed determination to be more careful in his clinical observation and his recording of facts concerning all of his patients.

To my mind this subject of the value of the older medical writings is an important one and should not be overlooked. I have dared present it to you this evening rather than a more technical or strictly medical paper, because I believe it worthy of serious consideration. I would have a place for it in the medical school. It may be, in fact should be, an elective study. I have taught it for two years as a seminary course. It might be better to have it entirely as a side issue, not strictly speaking a part of the curriculum, but the subject for consideration by a students' medical society or historical club. But in some way the attention of the student should be drawn occasionally to the beginnings of medical things. At least he can be taught in his routine of work to refer back to many of these original articles, so that he may learn to use a library, to look up references and cross-references, to see how medical books and medical articles are made. This can easily be done in connection with any branch of medicine. And I am sure if the incentive is thus early given, our graduates will later, even though busy in practice, find time for an occasional delightful and profitable excursion into old medical lore, though by so doing they may become hunters of curios or even bibliomaniacs—but surely they might have some worse hobby or weakness than that of collecting old medical books and learning about their authors. When men like Osler advise the young physician to buy Laennec and to read Hippocrates; when Benjamin Ward Richardson said that he read Laennec every two years, there is something more to all this than a hobby.

EXCISION OF THE KNEE FOR CHRONIC RHEUMATISM.*

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In discussing the therapeutics of chronic incurable rheumatism of the knee-joint, in which function has been either totally lost or so far impaired as to render life miserable, there are two questions to consider. First, whether the case is incurable, or in other words, whether the joint by any kind of treatment other than operative can be rendered serviceable; and second, whether in case of hopeless disease, with loss of function, the limb can be rendered useful by operative procedures.

As regards the first question, it becomes in each individual case a matter of diagnosis. It is, however, usually correct to assume that when a knee-joint has been for years the subject of some form of rheumatic disease, when for one, two or three years it has practically lost its function and when the patient has tried every known form of internal and external treatment, including change of climate, the use of mineral baths, massage, passive motion, electricity and the x-ray, without getting relief from pain and disability, that a rational hope of cure cannot be indulged in. The period in the course of the disease at which physician and patient come to this sad conclusion will vary with their temperaments. The painful experiences of many years will not suffice with persons of certain disposition to deprive them of the expectation that sooner or later some remedy will be found to meet their malady; others learn more quickly to recognize the hopelessness of their condition.

To the practical surgeon the methods of dealing with these joints will present themselves in a variety of ways. If he entertains the hope of restoring the motion of the joints with a certain usefulness, he may think best to forcibly break up all adhesions under an anesthetic and, afterward, treat the knee with daily massage, passive motion and moist or dry heat. My own experience has been limited for the most part to chronic cases in which this method of action has already been tried without avail.

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* Read at the Mount Clemens meeting NORTHEASTERN DISTRICT MEDICAL SOCIETY OF MICHIGAN.

In the few cases in which I have practiced it the results have been disheartening. The joint has become greatly swollen and very painful. Subsequent passive motion has caused an agony which made its continued practice impossible, and the outcome has been a condition as bad as or worse than that for which the operation was performed. This, indeed, was to be expected from the known pathology of those advanced cases, in which we find invariably one of two conditions.

In the majority of cases, the ligaments have become thickened from a fibrous deposit, the neighboring bones have developed rings of osteophytes. The synovial membrane has nearly all disappeared and the cartilages have become eroded. The tibia is often connected with the femur by a new formation consisting of a connective tissue band which attaches itself to the crucial ligaments and contains minute spicula of new bone. The motion of the joint rarely wholly disappears. Just enough remains to cause pain by the stretching of the inflammatory deposit.

If the knee were left extended and complete anchylosis should take place, the leg would again become useful, but unluckily this rarely occurs. In most cases the joint becomes bent and the flexion becomes associated with a partial dislocation backward, and the patient is forced to go on crutches.

The other much rarer variety of rheumatic disorder shows little or no thickening of the ligaments and no formation of osteophytes. The joint may be freely movable, but whenever the patient begins to bear his weight on it he is seized with most severe pain. If the knee is opened it will be found to contain some serum. The seat of disease in this variety may be confined to the cartilages, which are thinned, eroded, and in some places entirely destroyed.

Such patients are to be seen everywhere in the land, moving painfully on crutches or wheeled around in chairs. Many of them might be put on their feet, relieved of pain and restored to active life, by the excision of the diseased joints—and it is of the indications for and the indications against the operation that I now wish to speak.

If I am consulted by a patient who has an incurable rheumatic affection such as I have described, confined to one knee, and who has no other serious trouble such as Bright's disease or general tuberculosis, I do not hesitate to advise a resection of the knee-joint. The operation, if properly done on an otherwise healthy subject, has extremely little danger, and the bones will usually heal by first intention. The patient will be able to sit up at the end of a month. At the end of two months, with the leg and thigh supported by a plaster bandage, he will be able to walk on crutches, bearing some weight on the injured leg, and at the end of three months will be able to discard his crutches. Splints should, however, be applied in some form until the end of the third or fourth month.

The patient will rejoice in an unwonted freedom from pain and in the return of a long-lost ability to use his leg when sitting. From a chronic invalid dependent upon external support he will be transformed into an independent, well and active man. This kind of case is the typical case for excision, and for it the operation is, in my judgment, imperatively indicated.

When both knees are affected, but all other joints are free from disease, the matter becomes more complicated. It is evident that a man with two stiff knees is in a very different condition from one who has one only in this state. In the latter case he can rise unaided, by the use of the well knee; in the former it would be very difficult to get on his feet without assistance. It would, too, be more difficult to sit comfortably, and he would in every way be in a much more helpless condition. The question would arise in such a case whether the man were not better off in a wheel-chair with his knees bent. In deciding the matter in an individual case, we would have to consider the amount of pain more or less constantly suffered. In some cases the serious involvement of one joint may be associated with a mild affection of the other, and an excision of that most diseased might add to the patient's comfort and efficiency. Where many joints are involved the gain to be derived from operative procedures becomes more and more problematical, and yet even then the great relief of pain achieved by the excision of diseased structures may justify the surgeon in removing them.

I will relate three cases, each differing from the other, which will illustrate the course of events after operation of this kind on the knee.

The first case, Miss T., aged twenty-two years, had a severe attack of rheumatic inflammation of the right knee in May, 1899, which left the joint partially anchylosed and flexed at an angle of about one hundred and thirty degrees. She entered Saint Mary's Hospital, Detroit, in May, 1900. On examination the knee was found to be flexed, varying from ninety to one hundred thirty degrees. This variation was due to a certain limited mobility. It was, however, not possible to flex the joint to a lesser angle than a right angle nor to extend it beyond one hundred thirty degrees. The tibia was partially dislocated on the femur. There was not much pain in the joint excepting when motion was carried beyond the limits mentioned. Her general health was good. She was put to bed and a double extension applied to the leg in such a way that while one weight pulled in a line with the long axis of the body, another attached to the upper part of the tibia pulled that bone forward. During the six weeks of her stay in the hospital under this treatment there was a slight progressive improvement in the position of the limb, and the angle of greatest extension was increased about ten degrees. She went away, however, as she came, on crutches, and was advised to have an operation for the relief of her trouble.

On November 12, 1900, she came back, and on November 14 submitted to excision of the joint. The joint when opened was found to be filled with inflammatory deposit. The surfaces were attached by a new tissue of fibrous character, which permitted a certain degree of motion. The contraction, however, of the posterior ligamentous structures was so great that even after complete section of the lateral ligaments it was impossible to overcome the pathological dislocation. This was eventually accomplished by excising a sufficient amount of bone from the femur and tibia. Healing was by first intention, and when she left the hospital on January 13, 1901, she was able to walk without cane or crutch, but continued to wear the plaster bandage. When she presented herself to me six months later she was quite well. The limb was strong, and she was able to walk miles without artificial support. She walked without any perceptible limp, and it was only when she sat that the stiff projection of the limb rendered her trouble apparent.

The second case, Dr. M., had been rendered incapable for business during a period of more than two years by a rheumatic partial anchylosis of the left knee. He entered Saint Mary's Hospital, Detroit, on August 7, 1901, for treatment. The leg was then extended on the thigh and straightened, and when supported by splints could be made of limited use in walking. There was a slight motion in the joint, and this motion was the cause of constant pain. A slight touch on the foot would cause pain in the knee, and walking without the splints was practically impossible. The joint was swollen and tender, and sometimes hot. On August 8, 1901, I excised the knee. I found the ligaments thick and swollen, the cartilages eroded, and between the joint surfaces a mass of new fibrous tissue in which there were multitudes of minute bony particles. Healing was uneventful, and on September 26, 1901, he left the hospital. His leg is now strong, he walks with hardly any limp, has no pain, and attends to all of his business without inconvenience.

The third case illustrates a different and somewhat rare type of rheumatic joint disease. Mr. R., aged forty-five, has suffered for several years with a rheumatic disease affecting nearly all of his joints. When I first saw him, early in May, 1902, I found him suffering from pain in his shoulders, hips, knees, ankles and wrists. Both wrists were swollen, slightly flexed, and partially anchylosed. He walked with the aid of canes, but, in doing so, had great pain in his left knee. He was worn and haggard and showed in his countenance and carriage the effects of long suffering.

On examining the joint carefully I was puzzled at the discrepancy between the severity of his pain and the lack of objective symptoms. He complained of great agony when he rose to his feet; the knee became then the seat of such pain that he was unable for a moment to bear any pressure on it. There would then be a subsidence of this great anguish and he could hobble on it for a short distance, though never without pain. The joint was not more swollen than its neighbor, and there was, if anything, a mobility that was rather abnormally great than impaired. Sitting, he could swing the leg freely in every direction without inconvenience, but pressure on the articular cartilages could not be endured. I hesitated in this case to operate, on account of the general character of the disease, and it was only after long consideration that I came to the conclusion that a malady which had resisted all kinds of treatment, including the baths at Mount Clemens, and which, during a period of more than two years, had rendered the patient miserable, justified an attempt at operative relief, even though the possible disablement of other joints should in the future complicate the conditions.

I excised the joint on May 19, 1902. The wound healed nearly by first intention. At the end of six weeks he was up on crutches bearing some weight upon the foot. He has no pain at the seat of operation and can walk without support, although, as a matter of precaution, he will use splints and crutches for another month.

The technique of excision of the knee varies with every operation. That which has proved most satisfactory in my hands is as follows: I make an incision across the knee from condyle to condyle just below the patella. For purposes of drainage this extends on the external surface to a point behind the condyle. The patella is removed, and the bursa under the quadriceps extirpated. The leg is now flexed to the utmost, breaking up all interarticular adhesions and new formations, and the joint exposed. For this purpose it is necessary to divide the lateral ligaments. All newly formed tissue is now cut away and the crucial ligaments and semilunar cartilages removed. From now on the technique for children and that for adults differs. In children the utmost care should be taken not to injure the cartilages of the epiphyses. I accordingly remove the surface cartilages of the joints with a sharp chisel, avoiding any more cutting than is necessary to denude the bones, while in adults I saw off the bones with attached cartilages. The joint is now cleansed and the hemorrhage checked.

Some surgeons bring the bones together in a slightly flexed position. This is a great mistake and one which is responsible for many failures in knee-joint incision. The object for so doing is to elevate the heel slightly and thus facilitate walking and to give a better attitude while sitting. Its disadvantages are, a lessened stability and a tendency with some patients to a dislocation backward of the head of the tibia. When the weight of the body is borne on the flexed knee it exerts a leverage on the joint which will inevitably force it apart if applied before the formation of a strong bony union.

The bones should, therefore, be brought together in a position of complete extension. This gives strength and stability and does not interfere with walking, as the patient learns to elevate the limb at the hip and to flex the ankle-joint, and thus carry the foot free from the ground. It is remarkable how little limp is shown by these patients. I have women whose skirts hide the stiff knee who will walk so well that they never betray any lameness to the casual observer.

I have given up the practice of fastening the bones together with nails or wire. It is altogether unnecessary, if a splint is properly applied. I have an assistant hold the limb up in extension while I sew the cut ligaments together with large chromacized catgut. Before doing so, however, I pass a rubber drain through from the inside to the outside of the joint. In order to do this properly it may be necessary to cut a groove in the bones at the back of the joint, in which the drain can lie. This drain is necessary for the discharge of blood, which continues for several hours to ooze from the cut bony surfaces. This drain is carried out of the joint from its external surface and should be so formed as not to discharge within the dressings. I always apply a plaster bandage to these cases from the navel to the toes of the affected side. Such a bandage may be left on a month if only the blood is not allowed to discharge into it, in which case it will soon become septic and foul. In forming the drain a medium sized rubber tube should be selected. The portion within the joint should have holes cut in it, but no holes except that at the end should be in that part which is outside. The joint should be enveloped in oiled muslin and the drain passed through a very small opening in it. The bandage should now be applied in such a way as to avoid the drain, and another piece of oiled muslin, through which the drain passes, should protect its outer surface. In this way the plaster is protected within and without from all discharges.

An important feature to consider in applying a plaster bandage, which is to remain in place three or four weeks, is the padding. This should be made of layers of cotton wadding aggregating an inch in thickness and quilted between two sheets of gauze. When the bandage is completed the inner layer of gauze next the skin should be turned over and attached on every edge to the gauze bandage, which protects, thus preventing any fraying of edges and escape of wadding. If the padding is not sufficiently thick the patient will suffer great discomfort from the pressure of the hard plaster on the bony prominences. At the end of three or four days if all discharge has ceased the drain should be removed. After three or four weeks the plaster should be removed and the joint examined and a new plaster bandage applied to the leg and thigh, but not to the body. At the end of six weeks usually the patient may walk on crutches and begin to bear some weight on the leg. He should, however, in rheumatic cases, wear splints of some kind for at least three months after the operation. In tuberculous cases, however, in which the bone is always more seriously affected, and in which the foci of disease may remain undiscovered in the bone, care should be taken for many months to protect the new tissue from severe strain, by the habitual use of splints.

THE SURGICAL TREATMENT OF PROCIDENTIA UTERI.*

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At the outset let me relieve your minds by a frank statement of the purposes of this paper. Otherwise, you may look forward with dread to the usual deluge of drawings and diagrams of a new operative procedure for the relief of a very common disability. Such descriptions, while no doubt interesting to the essayists and endured with resignation

* Read by invitation January 7 and 8 before the Ionia and Ingham County Medical Societies.

by an audience composed of specialists, are entirely out of place on occasions such as this. My purpose will be rather to discuss briefly the causes giving rise to marked degrees of uterine prolapse and to consider certain fundamental principles underlying any form of cure of the condition by surgical means. Finally, I shall emphasize the futility of any form of treatment except surgical, and try to explain the reasons therefor.

Literally procidentia uteri means a prolapse of the uterus, a pathologic descent of the organ so that it comes to lie permanently in a lower position than normal. But by common consent the term has come to be applied to marked degrees of prolapsus uteri, where a part or the whole of the organ lies outside the vulva. The procidentia is spoken of as partial when only a portion of the uterus protrudes and complete where the entire organ lies outside the vulva, when the patient strains down or assumes the erect posture.

Procidentia uteri is not an uncommon condition, and either the complete or incomplete form has probably been seen and recognized by each of my audience. It is usually seen in women near or past the menopause. In my experience the more marked forms of the disability will be found in patients past the menopause, for reasons which will be explained later.

ETIOLOGY.—Normally the uterus is maintained in position by various pelvic structures which act together, not separately. The principal support may be said to come from the various muscles and connective tissue making up the pelvic floor. These muscles run from various portions of the bony pelvis and are so inserted as to hold upward the rectum and vagina. The uterine ligaments, the round, broad and vesico-uterine and utero-sacral do not hold the uterus upward but simply act as guy ropes, keeping it from going too far in one direction. In order to insure the normal position of a uterus we must have all these factors acting together, and any failure so to act is liable to result in a malposition. In this, then, lies the explanation why almost without exception procidentia uteri is met with in women who have borne one or more children. Here the integrity of the pelvic floor has become impaired either through a direct tear of the pelvic muscles and fascia or overdistention of the same. The child's head in its passage through the vaginal tract tears the muscles at either side of the median line, the levator ani muscles. The external perineum may or may not be involved in the tear. From the standpoint of pelvic and uterine support the integrity of the external perineum is of slight importance. If the internal perineum be torn either on one or both sides, unless the torn edges of the muscles be sutured properly and primary union take place, the results of such tears are shown very soon after the woman begins to walk about. The posterior vaginal wall no longer hugs the anterior wall of the vagina, but falls away from it, making the axis of the vagina horizontal and not downward and backward, as it should be normally. Then may follow more or less rapidly, according to the extent of the perineal tear, a bulging forward of the posterior vaginal wall. Straining at stool, instead of directing the fecal mass out through the anus, has a tendency, under the changed conditions of the pelvic structures, to force the rectum, together with the vaginal wall, forward and outward. A rectocele is the result. A similar condition is met with in the anterior vaginal wall. The lack of support resulting from the extensive tear of pelvic muscles and fascia, together with a possible overdistention of the latter, allows the anterior vaginal wall, with the bladder behind it, to fall downward and outward. The resulting cystocele is apt to be larger and antedate the appearance of the rectocele in the class of cases we are considering.

Preceding, accompanying or following the changes in the anterior and posterior vaginal walls is a change in the position of the uterus. Tears of the vaginal mucosa, unless repaired, are apt to be followed by septic absorption. This in turn results in subinvolution and permanent enlargement of the uterus. Relaxation or contraction of the uterine ligaments is a frequent accompaniment. The heavy uterus sinks in the pelvis because the entire mechanism of normal support or retention is out of order. The guy ropes, the round, broad, sacro-uterine and vesico-uterine ligaments are not working properly. The fundus of the uterus is directed backward, the cervix sinks lower, at the same time pointing forward and upward. Because of the retro-deviation of the fundus, the intraabdominal pressure acts upon the posterior instead of the anterior surface of the uterus, and still further increases the retrodisplacement and prolapse.

Up to this point we have a prolapse of the uterus with cystocele and rectocele but not prodicentia, according to our definition set forth above. The uterus still remains internal to the vulva, although the eversion of the anterior and posterior vaginal walls may be marked. At or very near the menopause, however, the pelvic muscles which have been torn but are still capable of some action, begin to atrophy and lose their tonicity. The pelvic fat is absorbed just as is the case with the vulvar fat, and the pelvic flabbiness is increased. The subinvoluted uterus remains the same size instead of atrophying at the menopause. This is due to a lower position of the uterus in the pelvis, an interference with the blood supply and resulting uterine engorgement.

The cervix now appears at the vulva and more and more of the anterior and posterior vaginal walls protrude. According to the amount of uterine tissue external to the vulva does the condition correspond to complete or incomplete procidentia. In the complete form an enormous mass may protrude between the thighs, in the centre of which the uterus can be palpated. The cervix, lacerated and everted, is enormously increased in size from an interference with its blood supply. The vaginal mucosa is thickened and the vaginal folds effaced. From friction of the mass on the clothing, ulcerated patches form about the cervix or on the vaginal walls. The direction of the urethral canal is downward, with the result that the bladder cannot be emptied promptly. The rectum has followed the prolapse of the posterior vaginal wall and interference with defecation results. Enteroptosis is a frequent complication, allowing the intestines a still greater opportunity for prolapsing into the everted peritoneal culdesacs.

Such is the usual course of a procidentia uteri. The exceptions are so few as to hardly necessitate consideration. In rare cases, owing to great relaxation of the uterine supports, the uterus can appear outside the vulva with but little if any accompanying cystocele or rectocele. In certain cases due to the injuries sustained at childbirth, the posterior vaginal wall protrudes but little. It only emerges from the vulva when it is dragged out by the advancing uterus. In some cases the uterus atrophies in spite of the interference with its blood supply.

Treatment.—Whatever may be the merits of the pessary as a support for a retrodisplaced or slightly prolapsed uterus, such instruments are practically valueless in the cases under consideration. A retroversion pessary, whatever its size, will hardly remain in position while the patient is assuming the upright posture. The relaxation of the pelvic floor is too great and the pessary is carried out with the rapidly everting vaginal walls. The same thing holds true when other forms of support are used. Their action depends upon the forcible distention in a lateral direction of vaginal walls already distended to the limit. Whatever the size of the instrument employed, it is quickly forced outside the vulva by the prolapsing vaginal walls. The only palliative treatment is rest in bed with elevation of the hips and the use of cotton and wool tampons. The assumption of the erect posture means an immediate return of the condition.

The aim of any form of surgical treatment is to restore the parts to and retain them in their normal conditions. So great, however, have been the changes in the vaginal walls, uterus and its ligaments that the ideal is seldom attained by the operator. To retain the uterus in nearly its normal position and to prevent a recurrence of the vaginal prolapse is on the whole as much as he can hope to accomplish by his plastic procedures.

His operation, if it is to be successful, must accomplish two objects. It must carry and hold the cervix backward in the pelvis, so that the fundus of the uterus will point forward instead of backward. It must lift up the prolapsed and dislocated anterior vaginal and bladder walls to their normal positions. How best can this be accomplished? Perhaps this can be best answered by first clearing the field by the enumeration of certain operations which have been tried and found wanting. Whatever can be said as to the advisability of a removal of the uterus as a step in the cure of procidentia, experience has shown that alone it is a perfectly useless procedure. One might as well try to cure a large inguinal hernia by amputation of the peritoneal sac without narrowing the dilated inguinal rings. The stretched anterior and posterior vaginal walls may be held up temporarily by the shortening of the broad ligaments following the formation of the hysterectomy stumps, but the improvement is transitory. The pelvic hernia returns, the extravulvar mass is as large as before and the patient is even worse off, as the removal of the uterus provides room for a descent of a greater number of intestinal coils.

The simple narrowing of the upper part of the vagina has also been found insufficient. The proper support is not provided for the heavy, prolapsing uterus. The cervix acts as wedge, the scar tissue is pushed aside and in a few weeks or months the patient's condition is as bad as ever.

Failure also will attend the endeavor to hold the uterus upward by a shortening of its ligaments or the attachment of its fundus to the abdominal wall, unless the proper plastic procedures have been inaugurated from the vaginal side. Cases have been reported where the uterus forced its way outside the vulva, still retaining its attachments to the abdominal walls. A shortening of the round ligaments either through the inguinal ring or intraabdominally will prove worse than useless without the proper plastic operations on the vaginal walls. In the presence of these latter, such operations are unnecessary.

There has been much discussion as to the advisability of amputation of the cervix as an adjunct to the vaginal plastic operations. It has been argued by some that the enormous cervical elongation and hypertrophy present in some cases is more apparent than real, and that it will disappear when the uterus is held upward in its proper position. I hold this statement to be only partially true, and acting in accordance with my convictions I sometimes amputate the cervix when it is greatly everted, elongated and enlarged. By so doing, I consider that I am hastening the reduction in size of the enlarged uterus.

I endeavor to carry upward the anterior vaginal and bladder walls by two procedures. The first is a shortening of the anterior vaginal wall by the removal of a certain amount of vaginal mucosa from either side of a vertical incision which runs from just below the meatus urinarius to within a half inch of the anterior cervical lip. Enough is dissected away to allow of the bringing together of the edges of the incision without tension. The vesico-uterine peritoneum is cut through and the edge of the bladder peritoneum sutured higher up on the uterus. By this procedure the bladder is lifted up and held well behind the pubes. A plastic operation is now performed upon the redundant posterior vaginal wall whereby the vagina is narrowed and the cervix at the same time carried backward. An extensive perineorrhaphy is next performed which still further narrows the relaxed vaginal outlet and furnishes additional pelvic support. If the cervix has been amputated, the cut edges of the anterior and posterior vaginal flaps are sutured about the stump so as to cover all raw edges and leave a space in the centre for the newly formed os externum. Only occasionally has it been found necessary or thought advisable to remove the uterus. If this be done, the bladder must be carried up and held there by the plastic operation on the anterior wall. This has been found sufficient to hold it in position. The stumps of the broad ligaments are sutured inside of the vaginal mucosa and the anterior and posterior peritoneal folds sutured together, completely closing the pelvic cavity. The anterior and posterior vaginal flaps are sutured so that no raw surface remains. Catgut is employed throughout, except a few external silkwormgut sutures for the perineum.

I am aware that the above description is exceedingly meagre. Such an operation must be seen to be understood, and a longer description would hardly be in place on this occasion; for, as stated in the beginning of the paper, the intention was to discuss principles, not details.

SURGERY IN HYDROCEPHALUS.*

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IT is not many years ago since cases of hydrocephalus were classed among the incurable affections. True, efforts were made by means of drugs to alleviate the sufferings and prolong the life of the patient, but the results were not encouraging.

It is not claimed for surgery that a cure has been discovered, but a method of procedure is now in vogue which offers at least a ray of hope. Surgery has long lent its assistance to medicine in its effort to combat this affection. Repeated tapping; drainage of the ventricles; drainage into the areolar tissue beneath the occipitofrontalis muscle; lumbar drainage; injection of Morton's fluid; drainage of ventricles and injection of aseptic air and drainage from the lumbar region into the peritoneal cavity have all been tried with results unfortunately not encouraging.

Sutherland and Cheyne have introduced a surgical procedure which seems based upon rational lines and to offer the best results. It consists in draining the ventricles into the subarachnoid space.

The operation is done in the following manner: A curved incision is made along the lower border of the anterior fontanelle down to the dura mater. A small incision is made in the latter membrane and the arachnoid. A number of fine catgut strands about three inches long are grasped with a pair of smooth forceps; one end is pushed down in the subarachnoid space; the other end is then grasped with the forceps, which are shoved through the cortex of the brain into the ventricle.

It is a noticeable fact that no cerebrospinal fluid escapes from the subarachnoidal space during the operation, but as soon as the ventricle is opened by puncture of the brain cortex a copious flow takes place. This shows that the foramen of Magendie, or communication between the ventricles and subarachnoid space is obstructed and consequently the fluid cannot find its way into this space, and the relation between the pressure of the cerebral fluid and the absorption by the veins of the cerebral membranes cannot be maintained.

Mr. Cheyne suggests that a decalcified drainage tube filled with strands of catgut be used instead of catgut alone, believing that failures are frequently due to the brain substance falling in between the strands of catgut, and that by using the decalcified drainage tube, as absorption of the catgut and tube goes on, lymph channels may be formed to establish a permanent communication between the ventricles and subarachnoid space. Some make use of a rubber drainage tube and others again use horsehair.

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* Read before the DETROIT ACADEMY OF MEDICINE.

After the introduction of the drainage the wound is sewed and dressed in the usual manner, and in five or six days healing will be found to have taken place.

Another ingenious operation devised by Stiles might be mentioned. It consists in removing the lamina of the third lumbar vertebra, opening up the subarachnoid space, introducing a catgut strand in the opening and sewing it in place; carrying the other end under the erector spina muscle and through an opening in the muscles and transversalis fascia into the peritoneal cavity; stitching it in place and closing the wound in the ordinary manner.

If this operation can do good it must be in those cases where the foramen of Magendie remains patulous, but since we have no means of ascertaining whether that is so or not, it would seem that this is an operation not to be recommended.

The danger in these operations seems to be comparatively slight. On account of the change in the circulation of the brain, a slight rise of temperature and some nervousness frequently follow, but these symptoms are readily controlled. Since the many surgical procedures that have been tried have accomplished so little, it would seem that the operation of Cheyne and Sutherland as detailed above should be given the preference.

TRANSACTIONS.

CLINICAL SOCIETY OF THE UNIVERSITY OF MICHIGAN.

STATED MEETING, DECEMBER 15, 1902.

THE PRESIDENT, CHARLES B. NANCREDE, M. D., IN THE CHAIR.
REPORTED BY JOSHUA G. R. MANWARING, M. D., SECRETARY.

REPORTS OF CASES.

A CASE OF CHRONIC INVERSION OF THE UTERUS.

DOCTOR REUBEN PETERSON: I would like to show this patient because she presents an interesting condition, and I am quite sure that the majority of the members of the Society have not had an opportunity of seeing her. This woman is twenty-six years old and her child was born about fifteen months ago. As nearly as I can learn from her description, it was a quick delivery and, after the delivery, there was a great deal of hemorrhage. The doctor told her a week or two afterward that something was wrong. He did not state exactly what it was. That was over a year ago. I examined her first at my office and found that she had an inversion of the uterus. I advised her to come into the hospital, but for some reason she could not make arrangements then, and the next time I saw her she was in a very anemic condition. She had lost a great deal of blood in the meantime, so that her hemoglobin when she entered was only twenty-five per cent. I had Doctor Dock see her in consultation, and he agreed that it would be folly to attempt any operation with the hemoglobin so low. At his suggestion she was placed on Blaud's pills, increasing the dosage rapidly to twenty-five grains ter in die. There was a marked change in the hemoglobin in a comparatively short time. Within two or three weeks it changed from twenty-five per cent to sixty per cent, and it seemed most favorable for operation. But again family reasons prevented her from having the operation. She began to flow and the hemorrhage was alarming. While the hemoglobin is not as deficient as it was when she entered the hospital, she is more anemic than she was ten days ago. The amount of flow now is only trifling, and we shall proceed with the previous treatment, and within ten days or before I hope to operate upon her.

I will show the inverted uterus to you because I think it can be well demonstrated. We had a good opportunity of seeing how the blood came from a menstruating uterus, although the uterus was turned wrong side out. It oozed from this very red, raw-looking surface, and when a speculum was introduced it filled the lower blade in a very few minutes. Now, in the case of a fibroid where the hemoglobin was only fifty per cent, I referred the patient to the medical side, and she began flowing there after they had improved her blood as in this case. She was packed tightly, but to no effect. At the suggestion of Doctor Arneill, we used gauze soaked in a thirty-five or forty per cent solution of antipyrin. This acted very well and controlled the hemorrhage. We tried the same thing here, but it did not work so well. Naturally, we were trying to control a physiologic process which was under the control of the nervous system. We packed the vagina tightly with gauze soaked in this solution and removed the gauze every day, and we finally got the hemorrhage under control, or at least so that it was not alarming. I suppose, however, we did not shorten the time of the menstrual period very much. There is one thing about packing the uterus in this case. One would think that it was a very favorable place for septic absorption, and the history shows that the tubes and ovaries in these cases are affected very frequently. You will notice the odor after the packing has been in place less than twenty-four hours, but there has been no indication of septic trouble here.

There are three operations for the relief of this condition. The first operation is one advised by Thomas and is simplicity itself, although it was a very dangerous operation in its early days. That was an abdominal section and dilatation of the cervical ring. The reason why you cannot put your finger in there and push it back is on account of this contraction. The fundus is larger than the neck and it will not go through. The ovaries may be within the cup and they may not. Sometimes they are down near the fundus and sometimes they are above.

What Thomas did was to make an abdominal section and dilate until he could push the fundus through the cervix from below. But one would not like to do such an operation on an anemic patient, if he could accomplish the same from below. I am not speaking of this from my own experience, but from my reading. Another operation is through the vagina, and there are two methods. The first is the operation through the anterior culdesac. The uterus is pulled down as far as possible toward the perineum and a horizontal incision made above the cervix through the mucosa. The trouble is that ordinary landmarks are gone and you have to work carefully or you will open the bladder, but if you stick close to the cervical lip you can do no harm. After isolating the cervical lip, put in another tenaculum and pull downward; then cut in the median line, of course cutting through the peritoneum as well as the uterine tissue. This incision must be carried pretty well to the fundus; that reduces the constriction and you can reinvert the uterus. The only difficulty, as I would judge from my reading, is that the peritoneum is apt to slip back, as there is always very redundant uterine tissue there. In this case it may be difficult to accurately approximate the peritoneal edges. One author advises that they be trimmed down so that the two parts of the wall will come together.

The other operation is to go in from behind, into the posterior culdesac, and it seems to me that is a distinct disadvantage because it is farther away and harder to get at.

(The patient was later operated upon by the second method outlined above, and made a good recovery.)

DEMONSTRATION OF A SPECIMEN OF THE QUARTAN MALARIAL PARASITE.

DOCTOR DOCK: I have a specimen here that I thought would be of interest to all of you. We get very little malaria in this latitude, and a case of quartan malaria is rare anywhere. A few days ago, Doctor Morris, who graduated last June, sent me some specimens of quartan malaria. I have under this microscope a specimen showing the sporulating quartan. This is a very beautiful specimen. It is very hard to catch them in this form. Under another microscope I have a younger form. This shows that the case is a complicated one. The preparation shows the characteristic sunflower or marguerite or rosette of the quartan. It shows eight spores around the central pigment. I have here some photographs showing two pictures of the quartan, and also, for comparison, some of the tertian and malignant forms which will be interesting to compare with the preparation.

SYPHILITIC INTERSTITIAL KERATITIS.

DOCTOR FLEMMING CARROW: This is a case of interstitial keratitis. Most observers claim that interstitial keratitis occurs only as a result of hereditary syphilis, while others claim that we may have cases of this sort without inherited syphilitic taint. Inasmuch as I have seen such cases in animals, it would seem that it does not necessarily occur as a result of syphilis. It is the disease which usually affects dogs as they recover from puppy distemper.

This disease makes its appearance first in one eye, and when that eye is about blind, it makes its appearance in the other. The patients ordinarily make good recovery in about six months. The cornea is infiltrated, is opaque, while on the scleral border there is a salmon-colored patch, which, with the corneal infiltration, distinguishes the disease. There is marked photophobia. In the case before us, where there is undoubtedly syphilitic taint, we have the accompanying Hutchinson teeth. So the case is interesting from the appearance of his teeth. He is taking fifteen grains of potassium iodid and bichlorid of mercury ter in die, and is standing the treatment well, and is gaining in weight. I have never found that patients could get along without mercury in these cases.

ORIGINAL ABSTRACTS.

MEDICINE.

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AND
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A NEW METHOD OF COUNTING LEUKOCYTES.

TURK (*Wiener Klinische Wochenschrift,* July 10, 1902). For a blood counting instrument to come into general use, it must possess three qualities—ease of handling, simplicity and speed.

The ordinary method, that of Thoma Zeiss, with a dilution of one to ten and the ordinary counting slide, requires perfect technique. Many of the modifications sacrifice accuracy for convenience.

In normal blood, by the ordinary method, there are sixty to ninety leukocytes per square millimeter field. In leukocytosis there are two hundred to three hundred, while in leukopenia there are twenty to sixty. The sources of error aggregate only ten to twenty-five per cent, but in order to attain even this approximation one must count five per cent of all blood diluted, and more in leukopenia. In leukocytosis and leukemia, one must count as many fields as in normal blood, but the dilution may be made greater.

In using circular fields, the danger is of counting some space twice, of overlooking cells near the periphery, and of not getting the field exactly of the right size. In addition, Πr^2 is not a definite number, so that this is a source of error. The ordinary method is accurate if one can have five to seven chambers, and make as many drops. But it is suggested having a counting chamber with more counting space ruled on. This is not a new idea. Zappert in 1892 and Elzholz in 1894 used large chambers, though not for this purpose. They used them for enumeration of the eosinophiles and for differential counts of the leukocytes in fresh blood. There is no reason why these chambers should not be used for ordinary counts, though they are not used so much as is warranted by their exactness and simplicity. The Zappert chamber is now the simplest. For technical reasons the ordinary Thoma Zeiss slide is ruled, so that the lines extend one millimeter or more beyond the limits of the square, so that a cross is formed with a one millimeter square in the center. Zappert has, in addition to this, a square nine times as large, so that there are four additional accurately ruled squares for leukocyte count, with spaces one-twentieth to one-fortieth millimeter wide and one millimeter long. The four corner squares are not divided, so that in these counting would be very difficult. Elzholz made further division of the peripheral squares, adding a vertical line division of Zappert's chamber, thereby dividing the corner squares into spaces one-twentieth and four-twentieths millimeters wide and one millimeter long. With this one can count nine square millimeters, though the corner squares are somewhat more difficult than the central ones. But there is a source of error in that the space next to the central square on the right is likely to be counted with the central square. Even one on his guard is likely to make this error, or lose count in trying to avoid it. On account of not always being sure of accuracy when accuracy is necessary, Türk devised the following modification: By starting the ruling one-twentieth millimeter from the outside line he avoids the lack of clear division between peripheral and central square. Also, to know when he reaches this edge, he has an extra line between the outer parallel lines.

This chamber is useful for few or many leukocytes; the entire nine square millimeters can be used, all on the same slide, though this is not necessary for ordinary accuracy. The nine squares are used only in leukopenia, or when the dilution is large or the mixture imperfect. For greater accuracy, one can count separately the smaller squares into which the eight squares outside the central square are ruled. The possible objection that the many lines might give confusion does not hold, as each of the nine squares differs in appearance from all contiguous squares, the difference being visible at a glance. The advantages are speed, accuracy and ease of counting. Source of error is one per cent to five per cent, three hundred fifty to five hundred cells in seven thousand to eight thousand. One can count three hundred to six hundred cells in fifteen minutes, about three times as many as by using the old method. PRENTISS B. CLEAVES.

RING BODIES IN ANEMIC BLOOD.

CABOT (*Journal of Medical Research*, Volume IV, Number I) reports a new phenomenon which occurs in pernicious anemia blood and in the blood of individuals with lead poisoning, when stained by Wright's method. This staining method brings out with readiness all varieties of basophilia, both granular and diffuse. It can be employed to bring out all the anomalies of staining reaction characteristics of the severe anemias.

The bodies referred to above are a new set of reactions which have hitherto been undescribed. They appear as granulations arranged in the form of a ring, generally within but sometimes without the red blood cell. They vary in size from a ring corresponding to the circumference of the nucleus of a normoblast to a ring that has almost the circumference of a red blood corpuscle. Sometimes the rings are twisted and resemble the figure eight. They are generally stained red, although occasionally they are blue.

The author is unable to interpret the meaning of these bodies. He thinks that they are not accidental bodies and that they have some connection with the severe anemia; that they are associated with cellular regeneration and not with cellular degeneration. D. M. C.

TUBERCULOUS TUMOR, INVOLVING ILEUM AND CECUM.

ENGLAND (*Montreal Medical Journal*, Séptember, 1902) reports a somewhat uncommon case of tuberculous tumor of the ileum and cecum. The patient was a woman thirty-five years old who had complained for some months of symptoms of indigestion, such as flatulence, sour eructations, irregular bowels, pain in the epigastrium, vomiting of large amounts of fermented food and mucus and loss of flesh. The abdomen became distended very much at times. In May, 1900, she accidentally felt a lump in the right iliac region the size of a turkey's egg. "There is no distinct history of any symptoms simulating an attack of acute appendicitis."

"The abdomen was opened June 22, 1901, and the growth removed. The following pathologic report is given:

"The specimen comprises eighteen inches of ileum and four of large intestine. Exactly at the junction of the two there is an irregular mass about the bulk of a tennis ball. The mesenteric glands immediately tributary to the part are enlarged to the size of hazelnuts and matted together. The short, nearly three inch, appendix is three times its normal size, being much thickened and largely involved in the mass.

"Some nine inches up the small intestine there are four or five small gray nodules, found in its wall, being arranged in the direction of the circumference of the bowel.

"The ileocecal opening is found to be very much contracted, it only admitting a small-sized lead pencil.

"Incision into the lumen of the bowel showed the mass to be densely fibrous with areas of necrosis scattered throughout, and a microscopic examination confirmed the diagnosis of tuberculosis.

"There were abundant giant cells with caseation and fibrous proliferation.

"The mucous membrane was not ulcerated.

"The mass or section from the peritoneum to the mucous membrane was an inch in depth, the inflammatory thickening being most marked opposite the mesentery.

"The appendix seemed to be pretty uniformly infiltrated and the only secondary deposits in the intestinal wall were those described as occurring some nine inches from the valve.

"The lymph glands were caseous in the centres."

The reporter does not state whether tubercle bacilli were present or not in the growths.

D. M. C.

SURGERY.

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THE PRESENT STATUS OF SURGERY OF THE GALL-BLADDER AND BILE DUCTS.

THIS is the title of a paper (*Medical Record,* February 21, 1903) read by William J. Mayo, A. M., M. D., before the New York Academy of Medicine.

The author believes that the medical profession has not accepted the modern view of gall-stone disease as readily as that of appendicitis because the conditions surrounding these diseases are so widely different. Gall-stones occur in persons of advanced age with degenerative lesions or adipose tissue. The relative danger of slumbering stones is not well understood. While statistics are not reliable as to the prevalence of the disorder, five to ten per cent of all adults would be a fair proportion. The removal of stones in quiet cases may be classed with removal of the normal appendix, except that the latent stone may become active. The quiet stone may become active because of infection, or mechanical interference with the drainage of the gall-bladder. Both of these conditions may be present at the same time.

Infection in the gall-bladder may not be as bad as pictured, normal bile being free from organisms, or infection once present may die out. The presence of infection may induce contraction of the canal and prevent the passage of stone. These cases under proper treatment may obtain a period of rest, but may be again made active by infection. His advice about the early removal of the active gall-stone is as follows: The death rate following operation is less than one per cent. The investigation of 2,000 operations does not disclose the reformation of gall-stones in a single instance. Delayed operation is a misfortune because of complications, any or all of which may arise, the stones becoming a mere incident in the process. There may be adhesions and rupture either into the abdominal cavity or a neighboring viscus.

Adhesions or imperfect drainage may give rise to colics or pains. In some cases cancer may follow. Gall-stones in the feces give hope to the physician and the patient that a cure may be expected. This is a mistake, as we have always found others in the gall-bladder when these patients came to operation. Complications greatly increase the danger of operation. Infection according to kind and extent may go on to the formation of abscess or induce acute degeneration of the liver.

The principles underlying the operation are infection, whether it be acute or chronic, and involvement or noninvolvement of the liver ducts. The ideal operation (that is, closure of the gall-bladder and abdominal wound) may be undertaken when the stones are latent or discovered while performing some other operation. The presence of infection calls for drainage, which should be continued until the bile is normal. When the gall-bladder wall is thickened or the cystic duct has been obstructed the gall-bladder should be removed. When the liver ducts are free the cystic duct may be tied and the gall-bladder removed, but when the ducts are involved drainage must be provided. In such cases the serous and mucous coats may be removed, leaving the muscular tissue. The cystic duct is severed and left open at the bottom of the pouch, which is sutured to the abdominal wall to provide drainage. C. G. D.

GYNECOLOGY.

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ELECTRIC CAUTERY CLAMP IN THE TREATMENT OF CANCER OF THE UTERUS.

Charles P. Noble (*American Gynecology*, December, 1902) calls attention to the advantages of the electric cautery clamp in the treatment of cancer of the uterus. Among these advantages may be mentioned: (1) More tissue outside of the uterus is removed (or cooked) than by the classical methods. (2) All the connections of the uterus are severed either through tissue which has been cooked in the bite of the cautery clamp or these connections have been severed with the electric cautery knife. In this way the lymphatic vessels are sealed either by the burning or the roasting process. Whatever the risk of implantation of cancer upon the field of operation may be, by this means it is greatly lessened or done away with. An exception to the above statement must be noted in that the attachments of the bladder to the uterus are severed in the usual way. (3) Much less blood is lost than is usual with the classical technique, and a dry, bloodless field is left after operation.

Byrne, of Brooklyn, obtained good results in cancer of the uterus by amputation of the cervix with the electric cautery knife. Skene's instrument for the same purpose proved a failure. Downs, however, has invented a practical electric cautery clamp, and Noble has found this instrument useful in five vaginal hysterectomies, and mentions among the advantages of the method of its application: (1) By its use less blood is lost during operation; (2) the lymphatics are sealed up, thus lessening the risk of septic absorption and implantation of cancer; (3) more of the broad ligament is used than by other operations. Noble is of the opinion that although some years must elapse before the actual value of the electric cautery clamp in the treatment of cancer of the uterus can be determined, it is reasonable to expect, in view of the favorable results secured by Byrne, that it will give a larger percentage of cures than the older methods, especially when the disease has attacked the cervix.

As there is a general concord among writers that ten per cent is a fair average of cures, it is encumbent upon the profession to give a fair trial to any method which does not increase the primary mortality from operation and which gives promise of improving the ultimate results.

OBSTETRICS.

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OBSTETRICS AND THE GENERAL PRACTICIAN.

FUSSELL (*Journal of the American Medical Association,* Volume XXIX, Number XXVI) discusses questions of great practical value to the accoucheur engaged in general practice. The vast majority of maternity cases are cared for by the general practician. This fact is made the *raison d'être* of the paper.

Education of the Public.—Every physician should impress upon his clients the necessity of seeking medical advice as soon as pregnancy occurs. Waiting until the onset of labor or a day or two before that event places a handicap upon the physician, and may endanger the life of mother and child.

Examination of the Urine.—The importance of periodic examinations of the urine (monthly for eight months, and weekly thereafter) is strongly urged. The writer states that the physician is morally responsible for the occurrence of convulsions in a patient who has previously engaged his services, and whose urine has not been thus examined. The practice of not examining the urine unless the patient exhibits renal symptoms is condemned. Cases bearing upon this point are cited. (In addition to the tests for albumin and sugar, the amount of urea should be estimated as a routine if possible, and in suspicious cases in any event. Eye symptoms, severe headache or edema call for redoubled vigilance).

Abdominal Examination and Pelvimetry.—The writer urges the importance of repeated abdominal examination during the later months for determining the presentation. (This practice may save the patient great suffering, and the physician great anxiety. It takes but a moment to determine a normal position, and the diagnosis of an abnormal condition is worth the expenditure of whatever time and skill may be requisite. A malposition easily correctable before the onset of pains may offer the greatest difficulties after labor has proceeded for some time. Pelvimetry deserves more mention than the author gives it. I believe the pelvimeter should be to the obstetrician what the stethoscope is to the interinst. Its use is simple and its findings of value, especially when it reveals a condition rendering normal labor impossible. The patient will appreciate any conscientious effort to secure light as to her fitness for maternity).

Preparation for Confinement.—The patient should be instructed concerning the preparation of the bed. She should be told to have water boiled and cooled, and to have at hand towels, basins, soap, et cetera. (The physician may properly suggest the selection of a room, with reference to accessibility, ventilation, light, heating arrangements, et cetera. These matters may be discussed with the nurse if one is in attendance prior to the beginning of labor. The patient's bowels should be regulated and thoroughly emptied by enema at the beginning of labor.)

Management of Labor.—Vaginal examination must now supplement abdominal findings, to determine the progress of labor, and whether or not the physician may safely leave the patient for a time. Vaginal examinations should be as infrequent as possible. Cleanliness is here the *sine qua non.* The patient should have been bathed and the bladder emptied. The pubic hair should be clipped and the vulva and adjacent parts thoroughly scrubbed with soap and water, followed by one to one thousand bichlorid solution, and covered with a bichlorid towel. The physician should bare his arms to the elbows, and after cleaning the nails should scrub his hands and arms thoroughly for five minutes with brush, soap and water. The hands and arms are then rinsed or preferably scrubbed with one to one thousand bichlorid solution. The hands must not be wiped nor brought in contact with anything whatever except the part to be examined. The same care should be taken to secure asepsis with each examination. A bichlorid towel over the vulva will keep the patient aseptic. (Examining the patient under the bed clothing is a most fruitful cause of sepsis. Examination should be made with the hands unimpeded. Fussell carries in his outfit a duck suit and Kelly pad. For the former an apron or a gown improvised from a clean sheet may be substituted. The latter is convenient and not bulky. It should be sterilized thoroughly before using. If not at hand it is only necessary to remember that whatever underlies the patient's hips must be at least clean. Fussell does not mention the use of rubber gloves. Nothing conduces so much to an aseptic confinement, especially if the physician has recently been handling infectious matter. The gloves can be boiled, put on in bichlorid solution, and offer no impediment whatever to the conduct of the case. A moderately heavy glove is preferable.) The author urges the same strict asepsis in the use of whatever instruments, suture materials, et cetera, may be needed.

Management of the Puerperium.—The physician should personally see that the patient is thoroughly cleansed. A douche should not be given after an ordinary clean case. If given at all it should be by the physician. Careful examination for lacerations should be practiced. Lacerations, however slight, should be repaired at once. The nurse, especially the untrained nurse, should be positively instructed not to give douches or otherwise handle the vulva. Misdirected zeal on the part of a well-meaning but ignorant nurse may have direful results. Catheterization should be practiced only by the physician or the trained nurse. (Fussell does not mention the necessity for attention to the uterus immediately after labor. The uterus should be followed down by the hand after the expulsion of the placenta, and should be palpated at short intervals for at least an hour after the patient has been made comfortable. It is good practice to instruct the attendant as to the feel of the contracted uterus, and in the method of massage to secure its firm contraction).

PEDIATRICS.

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THE TREATMENT OF DIPHTHERIA BY THE INTRAVENOUS ADIMINISTRATION OF ANTIDIPHTHERITIC SERUM.

CAIRNS (*Lancet*, December 20, 1902). The author reports several cases of malignant diphtheria in which antitoxin was given by the intravenous method, and says that the results of antitoxin injections in diphtheria may be improved by the use of larger doses than those commonly recommended and by the intravenous use of the remedy in certain cases. Serum given subcutaneously loses much of its power of neutralizing toxin in its passage through the lymphatic vessels and glands. The intravenous administration of antitoxin was first tried in cases of diphtheritic bronchopneumonia, where the diphtheritic process had extended from the throat to the pulmonary bronchials. This bronchopneumonia is the most frequent cause of death after tracheotomy. Tracheotomy fails to relieve the dyspnea which is pulmonary and not laryngeal. The author reports five cases of diphtheritic bronchopneumonia treated by the intravenous method and five recoveries. Cases of the so-called malignant type also call for the same mode of treatment. Some of the most marked results of the intravenous method of treament are the strikingly rapid disappearance of the signs of toxemia, the rapid disappearance of the great glandular enlargement in malignant cases and in the pneumonic cases, and the marked diminution of the restlessness. A serum rash was present in seventy per cent. of the cases. The dose employed subcutaneously varied from four thousand to twenty thousand units and intravenously from twenty thousand to thirty-five thousand units. Despite the large doses no untoward results beyond the usual serum rash were observed. The general indications for the use of the intravenous method of treatment are: (1) Malignant forms of disease with nasal hemorrhage, marked adenitis, cellular infiltration, et cetera; (2) any marked involvement of the lungs; (3), a moribund condition of the patient; (4) a profound toxemic condition of the patient. An initial dose of twenty thousand units is not excessive, to be repeated in twenty-four hours if the patient has not improved.

SCARLET FEVER SERUM.

Charlton (*Montreal Medical Journal,* October, 1902) says he has been using a special antistreptococcus serum in the treatment of scarlet fever for several months, which has yielded most gratifying results. He reports thirteen prompt recoveries out of fifteen cases, almost free from complications. Not one of the thirteen suffered from albuminuria or suppurative otitis media. On using the serum the effect was prompt, the temperature beginning to fall within two hours. No other treatment was given except stimulation and the usual precautions as regards laxatives, diet and rest. The dose given was generally twenty cubic centimeters, repeated when necessary. The author does not claim it as a cure for scarlet fever, but by timely administration, in severe cases, it tends to allay unfavorable symptoms, overcomes complications and prevents a fatal termination.

THE SURGICAL TREATMENT OF EMPYEMA.

Doud reports (*Medical News,* Volume LXXXI) the results of seventy-five cases of empyema treated surgically as follows:

(1) For simple cases of empyema the treatment used is excision of about one and one-half inches of the seventh or eighth rib in the posterior axillary line. Light ether anesthesia is usually employed; the purulent coagula are removed; short rubber tubing cut partly across, doubled and held by large safety pins, is used for drainage; abundant gauze dressing is applied and changed when saturated.

(2) If the patient's condition contraindicates general anesthesia, an incision into the chest may be made between two ribs under cocain anesthesia.

(3) Aspiration is only performed to give temporary relief in patients who are in great distress from the pressure of the fluid, or temporarily to relieve the second side of a double empyema after the first side has been opened.

(4) The patients are allowed to leave the bed as soon as possible, and the expansion of the lung is encouraged by forced expiration.

(5) Irrigation is only used when there is a foul-smelling discharge from necrotic lung tissue.

(6) Secondary operations are not done until good opportunity has been given for healing; usually three or four months should have elapsed after the primary operation, and there should have been no noticeable improvement for about a month.

(7) In the secondary operation the expansion of the lung should be encouraged by incising, stripping back, and, if necessary, removing portions of the thickened pulmonary pleura.

(8) The examination of forty-four of the patients at long periods after operation indicates that recovery is usually complete in the simple cases, and that there is surprisingly little deformity in most of the severe cases.

OPHTHALMOLOGY.

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GLIOMA OF THE RETINA; A REMARKABLE FAMILY HISTORY.

Newton R. Earle (*Australian Medical Gazette*) reports the case of a child of two years who had been completely blind for twelve months. A glioma mass could be seen through each pupil, involving the lens and growing into the anterior chamber—the irides being pushed forward. The growths were nodular and yellowish gray, the intra-ocular tension was increased and there was apparently great pain; there was no evidence of secondary implications of the brain or other organ. The patient was the youngest of a family of sixteen. Four of the children were alive and well; two had died within a month of birth, of bronchitis. Ten had all been affected with glioma of the retina, and all except the patient were dead. None lived beyond three years, except one who was operated on for unilateral growth and who lived to five, then died of recurrence.

Of the ten cases, three were unilateral and seven bilateral. Of the seven who died without operation, the eyeballs ruptured in every case except one, and this child was said by the medical attendant to have died of cerebral implication. Five cases were male and five female. One of the father's brothers died in infancy of some eye complaint.

LACTONEURITIS.

Bondi (*Wiener Medicinische Presse,* April, 1902) reports a case of lactoneuritis in a nursing woman aged twenty-six years. For two weeks she had complained of loss of vision, which was complete in the right eye and only partial in the left eye. In these two weeks she had also suffered with severe headache and orbital pain. She had had two children, the youngest being seven months. She began to wean the child last week, and since then she noticed a slight improvement in the left eye. The ophthalmoscope showed a distinct papillitis, but there was no hemorrhage nor exudate in the interior of the eye. She was ordered to refuse the breast entirely and was given potassium iodid internally. Five weeks after the first examination she was discharged as cured. Her vision returned completely and the papilla again became normal.

The author then cites several cases found in literature. In most of the published cases both eyes were affected. In one case of Nettleship's the affection began as early as one week before labor. In another case reported by Rayman the eye affection was complicated by paralysis of the facial and abducens nerves.

In conclusion, the author adds: (1) It is positive that during lactation partial or even total loss of vision can occur. (2) The disturbance of vision is caused by inflammation of the optic nerve. (3) Prognosis of such neuritis is usually very good. (4) Treatment—Interrupt the lactation and improve the constitution generally.

LARYNGOLOGY.

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MUCIN AND MALIGNANCY; FACTS AND THEORIES.

William Stewart Low, London, England (*Annals of Otology, Rhinology and Laryngology*, November, 1902). The author calls attention to the lack of study given to mucin, and to the prevailing belief that it is to be gotten rid of from the body as quickly as possible. He calls attention to the chemical character of this colloid and says: "It is largely present in the system and is found under two conditions: First, almost universally distributed as the cementing material between cells—tissue mucin; and second, mucin is found on all mucous membranes, in mucous glands, in many epithelial and all special goblet cells." The author calls attention to its mechanical function and suggests that possibly it has some further function. He believes it has a bactericidal action and fulfills a potent part in the defense of the body against bacterial attack.

The author brings out an interesting fact that where mucus is least abundant, there malignant disease is more commonly found. A few of the locations cited are: Where skin and mucous membranes meet at the edges of orifices, as at the lips, prepuce and anus, in the lower pharynx, on the tonsil, et cetera. Cancer is seldom met with in the small intestines and lungs where the mucus is abundant. The frequency of malignant disease of the mamma is cited. In this gland no mucus is present. He has also observed a diminution of mucous secretion in malignant disease, a condition of "hypomyxia." In hypomyxia nasopharyngia little or no secretion is found in the nose. Local inspection shows general loss of turgescence and vascularity of the mucous lining. The turbinals are small and sometimes shrivelled. The fauces and pharynx show a diminution of mucus. A similar condition is also found in the stomach-hypomyxia gastrica, accompanied with dyspepsia and flatulency. In the cases of the malignant disease which the author has studied they were hypomyxatous to a varying extent. In fifteen cases of cancer he noted that they were heavy smokers and salt eaters. Both habits tend to bring about the hypomyxatous state. The author claims hypomyxia is hereditary. City life is more favorable to the development of hypomyxia. A table is given showing a number of cases of malignant disease in whom hypomyxia was present.

The author claims good results from the use of mucin in the treatment of malignant disease. He gives no details as to how the mucin is obtained, although he states that it is given in tabloids, ten to twelve daily.

The article, although perhaps not convincing, brings together a number of interesting facts worthy of further study.

ACCESSORY THYROID TUMOR SITUATED AT THE BASE OF THE TONGUE.

Randolph Winslow (*American Medicine,* December 13, 1902). This case occurred in a girl, aged seventeen. Family and personal history unimportant. Patient menstruated regularly. She had muffled voice, complained of sore throat and difficulty in swallowing. Examination revealed an ovoid mass at the base of the tongue, completely hiding the epiglottis and cutting off all view of the interior of the larynx. On palpation it was found to be about one-half the size of a hen's egg, and elastic to touch. The growth was not painful. A diagnosis of accessory thyroid gland was made, and the growth was removed successfully by an external incision. The hemorrhage was not severe. Microscopic examination showed the tumor to be thyroid in structure.

The author, in commenting upon this case, calls attention to the well-known fact that thyroid tissue may be found in abnormal positions, and that these glandular collections may take on increased growth and form tumors of considerable size. In early life the thyroid gland communicates with the oral cavity by a tube known as the thyroglossal duct, of which vestiges remain in the foramen cecum, at the base of the tongue. This is one of the favorite locations of accessory thyroid tumors.

The views of these authors and other observers may be summed up in the following conclusions:

(1) Tumors at the base of the tongue are frequently thyroid in nature.

(2) In these cases atrophy of the normal thyroid gland frequently exists.

(3) These tumors do harm only because of their size.

(4) Removal may be followed by myxedema.

(5) If removal of the tumor be necessary, it should be attempted through the natural passages, if possible; if not, by external incisions.

DERMATOLOGY.

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THE INFLUENCE OF LIGHT ON THE GROWTH OF HAIR.

Schmidt (*Archiv für Dermatologie and Syphilologie,* October, 1902). Importance has of late been ascribed to the so-called chemical rays of the sun in accounting for the fact that the hair of the head and beard grows more quickly in the warm period of the year than in the cold.

In some cases of lupus treated according to Finsen's method, increased growth of hair appeared in the vicinity of the parts treated after recovery from the reaction caused by the exposure to the chemical rays. Also some of the female attendants observed an increased growth of hair on their forearms, which were exposed to the rays during treatment of patients. Therefore it had been assumed that the chemical rays stimulate the growth of hair. If this assumption could be proven true it would be a therapeutic fact of much value. Schmidt thinks it is not possible to ascribe to the chemical rays a specific hair stimulating influence, as the vicinity of the rays treated is the only part affected, but that it is possible that the increased blood supply resulting from the action of the rays improves the nutrition of the skin, and this promotes growth of the hair. But it is not clear why the Röntgen rays, which also cause an inflammatory hyperemia of the skin, cause falling out of the hair.

Schmidt's experiments on guinea pigs to determine the influence of the chemical rays on the growth of hair were pretty much negative. He reports two cases of alopecia areata treated by the light method. One case was treated with concentrated, the other with diffuse light, yet the reaction was the same in each, but the therapeutic effect was quite different. In the first case, treated seven times from a quarter to a half hour, the normal growth of hair appeared in a few weeks. In the second case, which was treated twelve to sixteen times for an hour, there was a rapid falling of the remaining hair after a few weeks, resulting in almost total baldness. Of twenty-nine cases of alopecia areata treated in the Copenhagen Institute, six remained without result.

Jersild ascribed three characteristics to the chemical rays, namely, bactericidal, hair stimulating and inflammatory. In the cases due to parasitic origin the use of the chemical rays within limits of the weakest inflammatory action may be expected to be curative. In the cases due to trophoneurotic conditions or to death of the rudimentary papillæ no cure can be expected.

At a meeting of the French Société of Dermatologie, Gaston and Nicolau related their experience with some cases of affections of the hair treated by x-rays. On account of the action of the x-rays in causing the hair to fall, it has been suggested to test this method in all parasitic affections of the hair follicles in which the elimination is an essential element in healing, for example, trichophytosis, favus, sycosis, et cetera. In a case of sycosis of the beard, which had existed for five months, and in which there was deep infiltration and induration about the follicles, the hair began to fall after the seventh sitting, and after two more treatments by the x-rays the pustules had dried and most of them disappeared. The infiltration gradually yielded, and the skin became soft. After thirteen applications the patient was completely cured.

The x-rays were tried in the case of a man of forty with trichophytosis ectothrix of the beard and neck. The hairs began to fall after the second sitting, and after the fifth sitting the face was perfectly clean.

In two other cases of children with ring-worm of the scalp the hair began to fall after the seventh sitting, followed by some desquamation and hyperpigmentation, and complete cure after seventeen sittings.

A case, which included nearly the whole scalp, and had resisted various attempts and methods of treatment for over twenty years, showed a loss of hair after the eighth sitting. The treatment was continued for four months in successive different areas, destroying the parasite in parts actively treated, the scalp becoming normal and the hair growing in new in many parts, but leaving evidence that the disease was not wholly eradicated.

From these observations the experimenters believe that the fall of hair begins after six or seven sittings, and that in the method employed by them no danger need result. They think that the special action of the ray is directed to the pillar itself. It is admitted that it has not been shown as yet that permanent epilation can be secured, though in a case treated by Oudin no recurrence of hair had appeared after more than seven months.

PSYCHIATRY.

By WILLIAM MILAN EDWARDS, M. D., Kalamazoo, Michigan.
MEDICAL SUPERINTENDENT OF THE MICHIGAN ASYLUM FOR THE INSANE.

HOSPITALS FOR THE ACUTE INSANE.

Frederick Peterson, President of the New York State Lunacy Commission, in a letter to the *Buffalo Medical Journal* for November, 1902, as reported in the *American Journal of Insanity,* calls attention to the need of reception hospitals for acute cases and those alleged or suspected to be insane. He assumes that all will agree that the sooner a case of insanity, especially an acute one, is put under the best treatment and safest superstition the better. With this idea in view a sort of emergency hospital known as the psychopathic hospital has been constructed in a large number of the chief towns in Germany. In many cities in this country and Europe, provision has been made for these emergency cases in connection with general hospitals. Such has been the case in Berlin, Vienna, Paris, Philadelphia and at the Bellevue Hospital in New York. Doctor Peterson says that in cities near a state asylum the need of a psychopathic hospital is not so apparent as in places more remote, but at the same time owing to the rather slow methods of commitment that even in cities like Buffalo, where there is a state hospital, patients are not infrequently kept in station houses awaiting necessary legal examination and commitment. Thus many cases of insanity in which treatment should be begun at once have, pending their examination and commitment by legal process, been kept in jails or almshouses some days without treatment. It is a fact that patients are sometimes sent to hospitals for the insane who are not really insane but suffering from various forms of delirium due to typhoid fever, pneumonia or other diseases.

Doctor Peterson says that Albany has already established a reception pavilion in connection with the Albany general hospital, where all these emergency cases of insanity and cases of apparent insanity are now received. This has proved very successful. He thinks if there were such a pavilion in connection with general hospitals in large cities that these cases could be received and treated immediately pending their examination and commitment, and in cases which are doubtful their insanity could be verified before resorting to legal process. He calls attention to the statistics of the pavilion for the insane at Bellevue Hospital for the five months ending June 30, 1902. There were admitted 986 patients. Of these 652 were sent to the Manhattan State Hospital; 21 to private asylums for the insane; 33 to other institutions; 79 were sent into Bellevue Hospital as not insane, but suffering from other ailments; 182 were sent back to their friends without commitment; 27 died; 24 remained in the pavilion. He especially calls attention to the remarkable fact that out of this total number of 986 admitted, 79 were sent into the Bellevue Hospital as not insane, and 182 were sent back to their friends; 27 were so ill that they died in the reception hospital. In their classification of diseases received at the pavilion for the insane for three months ending June 30, 1902, there were 584 cases. Among these were 118 cases of epilepsy, hysteria, chorea, alcoholism, morphinism, and the like, and 28 cases marked as not insane. These statistics afford something of a commentary upon the usefulness of such a reception hospital.

Doctor T. S. Clouston, of the Royal Edinburgh Asylum, in a paper read before the British Medico-Psychological Association and abstracted in the *American Journal of Insanity* for January, 1903, makes a strong plea for attempting to treat cases of acute insanity in general hospitals. He argues that in a general hospital a patient can often be treated without the loss of social prestige or business standing. If this attempt is successful mental disease is put on the same footing as other bodily diseases, and the public mind becomes educated to regard insanity in the same light as other severe and prolonged bodily affections. To treat these cases in general hospitals is simply to extend the specialization in medicine which has already done so much for the growth of medical science. They should be treated separately from cases of ordinary disease, and only those who are in an acute and curable stage of insanity should be admitted. Patients should be admitted precisely like other hospital cases and without any tedious legal formality. A special staff of physicians and nurses should be provided in wards especially built to meet the needs of the patients. He concludes with an outline of what he considers an ideal provision for the treatment of the dependent insane. This would consist of:

(a) Wards in connection with general hospitals for the reception of incipient, transient and proper cases of acute disease.

(b) Reception hospitals for patients requiring legal commitment.

(c) Ordinary hospitals for patients whose insanity continues from month to month.

(d) A boarding-out system for quiet, industrious and manageable cases.

THERAPEUTICS.

BY DELOS LEONARD PARKER, PH. B., M. D., DETROIT, MICHIGAN.
LECTURER ON MATERIA MEDICA IN THE DETROIT COLLEGE OF MEDICINE.

VISCERAL GOUT CURED BY THE INGESTION OF GRAPES.

GOLDSCHMIDT, of Strasburg (*Journal de Médicine et de Chirurgie Pratiques,* December 22, 1902), reports in detail a case of visceral gout, occurring in his own practice, which was cured by the free ingestion of grapes.

The patient, a man aged sixty-four, had been, in his younger days, a well nourished and healthy man. In adult life, however, he was attacked with rheumatic gout, and for some years previous to 1880 had two and sometimes three attacks of this disease each year. These attacks were always severe and confined him for weeks to his house or bed.

In addition to the rheumatism this man suffered also from a disturbed condition of his nervous system that at times amounted to true hysteria. His sleep at all times was disturbed and accompanied by spoken words and muscular movements.

During the attacks themselves fever was present to a high degree, and also frequently hallucinations. At the end of an attack there was usually a series of convulsions with a marked tendency to heart weakness and pallor of the face and interrupted respiration. The only remedy found to be of value in treating these attacks was morphin sulphate. Under the influence of this drug sleep came on. The remedy was palliative, however, rather than curative. Earlier in the disease colchicum had seemed to be of value, but later this had to be given up on account of disturbances of disgestion it came to produce.

In 1880 he suffered from an attack of pleurisy, and this was followed by an irritability of the stomach that was so pronounced and so persistent that cancer was suspected.

In this condition he was kept alive for a long time by means of nutritive enemeta. Finally, however, he became so wasted and so weak that his death was anticipated. At this time Doctor Goldschmidt had been able to eliminate the possibility of cancer being the cause of the gastric irritation and to substitute in its place visceral gout.

While the patient was lying in the condition above described the season of grapes arrived, and with it there came to the patient an intense longing to eat some of this fruit. In response to his pleadings a small quantity was given to him. These he ate with no bad effects. Then the quantity was increased and still no bad effects followed. The result was that in a short time he was allowed to eat all the grapes he wished. From this time on he practically lived on this fruit and ate whole basketfuls without stopping, and from this time on also he began to get well. Soon after starting on this diet he found he could retain other kinds of food, and gradually he took advantage of this power.

In closing his paper the writer says that the restored health of the patient, dating from 1880 and suffering no interruptions since that time, must in great part be attributed to the grapes he ate through the dictates of an irresistible impulse.

PATHOLOGY.

By ALDRED SCOTT WARTHIN, Ph. D., M. D., Ann Arbor, Michigan.
JUNIOR PROFESSOR OF PATHOLOGY IN THE UNIVERSITY OF MICHIGAN.

THE HEMOLYMPH NODES.

The year just closed has seen an unusual amount of scientific energy directed toward the investigation of the problems concerning the blood and the blood-forming organs. Of the researches into fields previously unknown or but recently studied, the recent work, which has raised a group of glands, practically unrecognized before, into a position of importance, both in so far as their anatomic and pathologic features are concerned, has attracted much attention; and during the year a number of workers have made important contributions to this subject. These studies have in many ways shown that the present views concerning the lymphoid tissues are very imperfect and inadequate and that we must assign to such tissue a more important rôle, both in health and in disease, than it was formerly supposed to possess. That the regional lymph-glands differ in structure and function appears to be the case; and in particular do those retroperitoneal glands having a red or brown color appear to possess especial functions of hemolysis which assign to them an anatomic and pathologic position more nearly related to that of the spleen and bone-marrow than of ordinary lymphatic glands.

A *hemolymph node* is a lymphoid organ containing blood-sinuses. Lymph-sinuses may or may not be present. Those containing only blood-sinuses may be designated *hemal glands,* while those containing both *blood-* and *lymph-sinuses* may be termed *hemolymph* glands. In some glands the blood-vessels appear to communicate directly with the lymph-sinuses, and such glands may not inappropriately be termed *hemal lymphatic.* Inasmuch as the chief function of these organs appears to be one of hemolysis, all of the forms may be included under the comprehensive designation of *hemolytic glands.* In man the hemal lymphatic variety is most common, the majority of the prevertebral retroperitoneal glands appearing to be of this type. In the deep cervical region a small number of hemal glands are always present. Numerous mention is made throughout the literature of the last fifty years of *red, pink* or *brown* glands occurring in the human body, but it was not until 1884 that the suggestion was made (H. Gibbes) that these structures were of independent nature and function; and not until 1901 was this suggestion proved and the importance of the organs demonstrated, both in so far as their anatomic and also their pathologic relations are concerned. In this year investigators working independently in Italy, Germany and America made important contributions to this subject, as a result of which the attention of a number of workers was during 1902 directed to these organs.

Retterer (Comptes Rendus de la Sociétié de Biologie, January 17, 1902) reported the results of observations on the lymph glands in animals under the conditions of starvation and hemorrhage, and ligation of the lymphatic trunks. As a result of his experiments he concludes that the red glands (hemolymph glands) have the same structure as the gray glands (ordinary lymphatic glands); and that all lymphatic nodes possess the same structure and function; *they are all hemolymph glands and produce both lymph and red blood cells.* He holds further that the color of a lymph gland (redness or paleness) depends entirely upon whether the red cells are retained in the sinuses or quickly removed into the general circulation. Local or general conditions may so affect the lymph current that there is either a stasis of red cells in the lymph glands or these cells are more quickly swept into the lymph vessels. Changes of pressure in the lymphatic circulation are sufficient to convert the same glands into pale glands or into hemolymph glands of red color.

Lewis (*Journal of Physiology,* March 27, 1902) gives a preliminary communication of his studies concerning the histology and physiology of these glands. He divides the hemolymph nodes into three classes: *hemal,* containing blood-sinuses only; *hemal lymphatic* with sinuses containing a mixture of blood and lymph; and a third class containing ordinary lymphatic glands in which the sinuses for the greater part contain lymph. All possible intermediate forms exist. The functions of the hemolymph nodes are presumably the formation of leucocytes, destruction of red cells, the formation of phagocytes, and the destruction of leukocytes. The spleen may be termed a hemal gland.

Warthin (meeting of American Pathologists and Bacteriologists, Cleveland, March, 1902; *Journal of Medical Research,* May, 1902) reported observations upon the changes produced in these glands after splenectomy. The sheep and the goat were used for the experiments. It was found that after splenectomy the hemolymph glands showed increased hemolysis and undoubtedly compensated for the hemolytic function of the spleen. A new formation of hemolymph glands in adipose tissue was also noted, and a change of hemolymph nodes into ordinary lymphatic glands through the obliteration of the blood-sinuses by lymphoid hyperplasia. All lymphoid tissues showed marked hyperplasia. No evidences of red blood cell formation in these glands were seen. The important conclusions drawn from this work are: The function of the hemolymph nodes is chiefly one of hemolysis; and under certain circumstances they can compensate for the spleen. The nodules formed after splenectomy, which have been regarded by Tizzoni and others as newly-formed splenic tissue, are shown to be hemolymph nodes. Tizzoni's work is thus confirmed, but given a different interpretation. Our knowledge of the relations of adipose and lymphoid tissue is also extended and Bayer's work on the regeneration of lymph glands confirmed.

Weidenreich (*Verhandlungen der anatomischen Gesellschaft,* April, 1902) made a second contribution to the subject in defense of their position as organs sui generis, basing his claims on the fact that the structure of these nodes is similar to that of the spleen, that serial sections show direct passage of blood-vessels into the blood-sinuses, absence of different lymphatics; and further, by the fact that the blood-containing sinuses may be injected directly from the blood-vessels, and that in the injecting of a hemolymph node, the injected material does not pass into the neighboring lymphatic glands. He concludes that hemolymph nodes are organs sui generis, and not lymphatic glands with blood in the lymph-sinuses.

Hatai (*Anatomischer Anzeiger,* 1902) noted the presence in human embryos of previously undescribed glands lying along the neck and partly occupying the scapular region. These glands consisted of two distinct structures, one resembling fat-tissue, the other presenting the appearance of a hemolymph gland. From its position Hatai is inclined to regard this organ as corresponding to the "hibernating gland" of the rat and rabbit.

Warthin (*American Journal of the Medical Sciences,*October, 1902) reported the results of a pathologic study of eight autopsy cases of pernicious anemia. In all of these cases it was found that the hemolymph nodes were more prominent than normally; and presented evidences of a marked hemolysis. In some cases an apparent hyperplasia or new formation of hemolymph nodes was found. As a result of this study it was concluded that pernicious anemia is essentially a hemolytic disease, the hemolysis being due to some poison as yet unknown—whether autointoxication or infection remains yet to be determined. This poison stimulates the phagocytes of the spleen, lymph and hemolymph glands to increased hemolysis, or the red cells are so changed by the poison that they themselves stimulate the phagocytes. The hemolysis of pernicious anemia differs only in degree, not in kind, from normal hemolysis or the pathologic increase occurring in sepsis, typhoid, et cetera. The changes found in the hemolymph glands cannot be regarded as specific of pernicious anemia, since it is probable that they may be produced by other infections, or toxic processes characterized by great hemolysis. The changes in the bone-marrow are to be regarded as of a compensatory nature—an increased activity of red cell formation to supply the deficiency caused by the excessive hemolysis.

Dercum and *McCarthy* (*American Journal of the Medical Sciences,* December, 1902) report a case of *adiposis dolorosa* with autopsy, in which very remarkable findings occurred in the subcutaneous fat. Small ovoid bodies were found in this location. On microscopic examination they possessed a definite capsule of connective tissue from which trabeculæ of connective tissue spread in different directions throughout the body. Within this trabecular network a rich plexus of capillaries was found. Between the capillaries the fine meshwork of fibres contained large numbers of lymphoid cells with here and there groups of red blood cells. Free blood pigment giving the iron reaction was found in small quantities in the trabecular network. From their structure these peculiar bodies were regarded as newly-formed hemolymph tissue. The significance of this finding—for the first time observed—was thought to be probably that of a profound disturbance of nutrition, due possibly to disease of the thyroid and pituitary glands. The newly-formed hemolymph nodes are probably to be regarded as compensatory in nature. The spleen in this case showed a connective tissue hyperplasia, and an angiomatous condition of the vessels.

EDITORIAL COMMENT.

A QUARTER CENTURY GREETING.

THE attractive new costume in which The Physician and Surgeon greets the medical fraternity on the advent of the twenty-fifth year of its existence not only affords extreme gratification to the mariner who has watched at the helm since the inception of the bark, but likewise bears substantial testimony to constituents that the journal is enjoying prosperity. A quarter century salutation has not been the privilege of many American medical periodicals. A goodly number encounter the rocks and shoals along the coast soon after being launched and never reach the high sea where sailing is smooth. Fortune and fair winds have favored this journal, however, and present indications bespeak for the twenty-fifth volume the most fruitful voyage in its career.

The department of original articles will contain many valuable papers during this year. Besides the usual quota of exceptionally good ones that are published from time to time, a number of special articles on important subjects have been engaged from prominent workers in special lines. The second of these contributions, "The Etiology of Cancer with Special Reference to the Parasitic Theory," a complete résumé of the subject, from the pen of Doctor Frederick A. Baldwin, of the Pathologic Laboratory of the University of Michigan, will appear in the next number.

The department of original abstracts has been augmented by the addition of three specialties. The current views bearing on the therapeutics of "Psychiatry" will be presented by an alienist; a record of the latest advance in the field of "Dermatology" will be furnished by a skin clinician; and the medical and surgical aspects of "Laryngology" will receive the attention of a nose and throat specialist. The abstracts in this journal are especially valuable by reason of the fact that clinicians in the various departments prepare them direct from original papers, thus insuring embodiment of the ideas of the author in the epitome, which is not likely to be the case when hack writers do the abstracting.

The complexion of the editorial staff has been somewhat changed. Doctor Frank B. Walker, after an agreeable connection as associate editor for five years, retires. The new acquisitions comprise Doctors David Inglis and Willis S. Anderson, of the faculty of the Detroit College of Medicine; Doctor William M. Edwards, Medical Superintendent of the Kalamazoo Asylum for the Insane; and Doctor William F. Breakey, of the medical faculty of the University of Michigan. These physicians are well known to the profession and require no eulogistic introduction.

The policy heretofore governing the conduct of the journal will be maintained. Since its establishment it has been beyond subservience to clique, institutional, or trade influence. It is gratifying to know that the better element of the profession has indorsed this platform, communications from all quarters attesting the high regard entertained for the journal. The constant aim of the management will be to conduct an independent journal in accordance with the professional dictum of ethical ideals.

"THOU SHALT NOT STEAL."

Literary pirates are hereby notified that The Physician and Surgeon is copyrighted. This fact has been recorded on the cover for several years, but notwithstanding the information certain enterprising contemporaries have revealed a predatory spirit by appropriating material without according the journal the traditional courtesy of acknowledgment. The pilfering has been noticeable for a number of years, and recourse to the copyright law has not substantially affected the nefarious practice.

Some time ago a Detroit physician contributed a paper to this publication and soon afterward the entire text was found reproduced in the original department of a Canadian exchange, this journal not being recognized in the transition. A subsequent perusal of current medical literature disclosed the article in an American monthly, where credit was accorded to our Canadian contemporary. A Saint Louis editor is guilty of stealing a contribution which was prepared for this magazine by an Ann Arbor physician. It was published in the original division of the western periodical without a semblance of credit, and although a footnote pronounced the body an abstract, comparison with the original text showed that the entire paper had been purloined. Awhile ago a memoir written by another Detroit physician was furnished to this journal, and in the course of time was reproduced in a Detroit medical publication, credit not figuring in the account. An Oklahoma journal lately appropriated a paper which was written for this journal by an Ann Arbor physician, credit in this instance probably having been overlooked during the hurried shuffle. Another gigantic steal was that perpetrated by a writer on a prominent Michigan daily newspaper, who filched our Beaumont memorial papers and dispensed the pillage as original material, notwithstanding the fact that the article was taken almost verbatim from the pages of this journal.

A copyright protects against the infringement of reproducing matter without the consent of the person to whom the copyright is granted, even though credit be given, but there is no objection to allowing any reputable medical journalist to abstract, extract, or publish in its entirety any article that may appear in this magazine, providing always that due acknowledgment be made. Observance of this requirement is imperative.

CONTEMPORARY.

RELATION OF THE PHYSICIAN TO THE COMMUNITY.

[THE BOSTON MEDICAL AND SURGICAL JOURNAL.]

We have already called attention to the fact that the students of the Harvard Medical School have, on their own initiative, arranged for a series of evening lectures to be given by prominent men, not necessarily physicians, on the general topic of the relation of the physician to the community. This action is noteworthy from several points of view. It shows, in the first place, a growing interest among students of medicine in the broader aspects of their professional work and in the responsibilities which it is sure to entail. Such a movement on the part of medical students, popularly supposed already to be overburdened with lectures, could hardly have occurred ten years ago. To those who have watched the development of the last few years, however, it comes as no great surprise. The students are certainly becoming more and more independent in thought, and are standing more in judgment upon the work which they are called upon to do and upon the teachers who direct it. The results have been in every way salutary both as regards teachers and students.

The desire of a large body of students to provide certain lectures for themselves furthermore points toward a definite need, which they are feeling is not supplied them in the regular course. They want, broadly speaking, to learn from men of experience of their future social and ethical relations to the communities in which they may happen to be placed. This is evidence that they receive no such instruction in their ordinary undergraduate work, which, we believe, is the fact. This leads us to speak of a distinct lack in medical education, and that is, the direction of students in their relation to patients and others whom they must later come in contact with in their professional work. No attempt is made to teach the ethics of medicine except by precept and example, a good but not a sufficient method. Students of medicine certainly need instruction on this subject, a fact which the Harvard students have appreciated and have taken measures to accomplish by the establishment of these evening lectureships.

MEDICAL NEWS.

A MEDICAL BENEFACTOR.

Major Walter Reed, A.M., M.D., LL.D., whose death occurred recently at Washington, was born in Gloucester county, Virginia, September 13, 1851. In early youth he conceived the idea of studying medicine, and when still a mere boy was admitted to the medical department of the University of Virginia, from which institution he obtained the degree of Doctor of Medicine at the age of eighteen, being one of the youngest medical graduates in the United States. Shortly afterward he entered Bellevue Hospital Medical College, receiving a second diploma from this school in 1872. In 1875 he was appointed assistant surgeon in the United States Army with the rank of first lieutenant, and five years later he was elevated to the captaincy. In 1890 the doctor was assigned to duty in Baltimore, in which city he entered Johns Hopkins University, and continued his work in pathology and bacteriology, paying especiall attention to the study of typhoid fever. In 1892 Doctor Reed was ordered to duty at Saint Paul, but after a short stay there he was called to Washington to fill the position of bacteriologist to the Surgeon-General, and of Curator of the Army Medical Museum. During the Spanish-American war he was appointed, with other medical officers, to investigate the prevalence of typhoid fever in the army camps, and after due consideration he devised the plan of gathering excreta in galvanized iron tanks, which scheme had the effect of checking the spread of the disease. This method was afterward employed at the United States General Hospital at Presidio, California, and resulted in the cessation of typhoid fever at that place. Doctor Reed achieved much fame as a pathologist and bacteriologist, but the greatest achievement of his life was the discovery that yellow fever is caused by mosquitoes, the particular species being the *culex fasciatus* of the genus *stegomyia.*

A STUDY OF BACTERIAL CELLS.

THE Rockefeller research work conducted in the Hygienic Laboratory of the University of Michigan, for the year 1902, was recently reported in the "Transactions of the Association of American Physicians, 1902." The work, which was done under the direction of Doctor Victor C. Vaughan, embraced "A Study of Bacterial Cells." The experiments were made with cellular substance of pathogenic bacteria which was obtained from large incubating tanks devised by the director of the laboratory. It was not designed to confine the investigations to toxins exclusively, but the broader study of cellular chemistry was attempted. Bacterial pigments, which were present in the tank growths in large quantities, incidentally offered opportunity for study. The germs were scraped from the tanks with glass rods and repeatedly extracted with alcohol. In some cases the alcohol had the effect of hardening the cells and the extractions were made with water. The symposium on the subject comprises nine papers.

THE DEMISE OF A NOTED SPECIALIST.

PROFESSOR RICHARD VON KRAFFT-EBING died at Gratz, Styria, Austria, December 22, 1902. The doctor was born at Mannheim, in 1840. He studied medicine at Heidelburg and Zurich, and after serving an apprenticeship in alienism at the asylum of Illenau, was appointed to the professorship of psychiatry at Gratz, afterward filling a like position at Strassburg, and subsequently at Vienna. His teaching left its impress in the department of medicine he pursued, especially as regards the classification of insanity. The relations of degeneration to mental diseases received much attention from this investigator, and many obscure points were elucidated by his keen perception. He was a psychiatrist of world-wide renown, an Austrian baron, and a knight of the order of Franz Josef.

MINOR INTELLIGENCE.

WORK on the next number of The Physician and Surgeon is progressing rapidly, and it will be issued shortly.

THOMAS F. GOODE has disposed of the famous Buffalo Lithia Springs, the consideration being about $500,000. Report does not name the purchaser.

SAUSAGE recently caused a serious epidemic of food intoxication at the Naval Academy in Annapolis. One hundred fifteen cadets were affected, but happily no deaths resulted.

THE French-Canadian members of the medical profession in Montreal held their second annual dinner on the 27th instant at the Place Viger Hotel. About one hundred fifty guests were present, Doctor Dubé occupying the chair. The dinner was served under the auspices of the Sociéte Medicale de Montreal.

Major Ronald Ross, of the Liverpool School of Tropical Medicine, has been awarded a prize of $40,000 for an essay entitled "Studies in Malaria." The award is one of the five Nobel prizes.

The people of Alabama are agitating, among other matters requiring legislation, the propriety of enacting a law compelling county commissioners to provide adequate salaries for health officers.

Invalids boarding trains in California are now required to possess a physician's certificate of noncontagious disease. A legal enactment making this obligatory became effective December 6, 1902.

The Committee on the Prevention of Tuberculosis in New York City has established a course of free lectures on this disease for the enlightenment of the masses. Monthly lectures will be delivered in the United Charities building, and Doctors J. H. Huddlestone, Biggs, Janeway, Jacobi, Bryant, and other physicians are included in the program of speakers.

Doctor Victor C. Vaughan presened the following resolution at the meeting of the Michigan State Board of Health, held in Lansing January 9, 1903: *"Resolved,* That the State Board of Health recommends that municipal and township authorities order the muzzling of all dogs at large, and make and publish regulations to that effect." The resolution prevailed.

The legislature of Virginia has granted permission to place the statue of Doctor Hunter McGuire in Capitol Square at Richmond. The memorial will be stationed in close proximity to the statue of "Stonewall" Jackson, on whose staff he served as medical director during the civil conflict. The contract has been made for the erection of the monument, which is expected will be in position some time during September of this year.

The Fourteenth International Medical Congress will be held at Madrid April 30, 1903. An excursion party of American physicians will sail from New York City, April 11, on the "Princess Irene," North German Lloyd, direct to Gibraltar. Tickets for the round trip, including hotel and sight-seeing expenses, will range from $265 to $550, according to the tour selected. Final arrangements will be in the hands of Thomas Cook & Sons, the well-known conductors of excursions.

Doctor Edwin Leonard, Junior, an alumnus of Amherst and a graduate of the medical department of Harvard University, has been elected to the presidency of the firm of Reed & Carnrick, vice John Carnrick, recently deceased. Doctor Leonard has been connected clinically with the Boston City Hospital, the Worcester Hospital and the McLean Hospital, the latter being a branch of the Massachusetts General Hospital, and is ably qualified to fill the position occupied by his predecessor. He is a member of the American Medical Association, the Massachusetts Medical Society, and other medical and scientific societies. The high standard achieved by the products of the firm will undoubtedly be maintained under his administration.

THE branch of the Victorian Order of Nurses, which was established in Halifax by the Countess of Aberdeen, and which ceased to exist a few years ago, will be revived by a number of philanthropic ladies of Halifax. Physicians whose practice is among the poorer classes have long felt the need of nurses and the restoration of this honorable order will be hailed with delight by them.

JOHN CARNRICK, late president of the firm of Reed & Carnrick, whose death occurred recently, was born in 1837, and began the study of pharmacy when twenty-four, in Jersey City. He was the originator of lactopeptine, maltine, liquid peptonoids, and in later years of protonuclein, peptenzyme, and trophonine, all of which products are well known to the medical profession. By the demise of this progressive pharmacist the ranks of the pioneer drug trade in the United States lose a foremost leader.

THERE are twenty-five vacancies to be filled in the medical corps of the United States army. Examinations of candidates for appointment to these vacancies will be held by the Army Medical Board in Washington on April 20, 1903. Classes will be examined each Monday as long as candidates present themselves. Twenty-nine years is the age limit, and hospital training or experience in private practice is required of all candidates. Further information may be obtained by communicating with the board.

THE enterprising book publishing firm of W. B. Saunders & Company has opened a branch office in suite 1713 Fuller Building, New York City. The building, erected on the triangular plot bounded by Broadway, Fifth avenue, Twenty-Second and Twenty-Third streets, is one of the oddest structures in the world, and because of its peculiar shape is known as the "Flatiron Building." From the offices, purposely located on the seventeenth floor, can be obtained an unobstructed panoramic view of the city. Physicians visiting New York are cordially invited to make these conveniently appointed offices their headquarters, where they can receive and answer their correspondence, obtain an interesting view of the city from a most favorable point, and where they will always be courteously welcomed.

DOCTOR ADOLPH LORENZ, the Vienna orthopedic surgeon who recently visited Chicago at the instance of Mr. Armour, to perform an operation for reduction of congenital dislocation of the hip on his little daughter Lola, has been awarded the honorary title of Doctor of Laws by the Northwestern University. The attendant ceremonies incident to the occasion were witnessed by the trustees of the college, the members of the faculty, and several hundred guests. The doctor has since laughed heartily when relating his experience with the American system that required him to pass an examination in Chicago before being allowed to practice medicine, notwithstanding the fact that he knows a bit about medicine, and soon afterward permitted an educational institution to confer the degree of Doctor of Laws upon him, regardless of the fact that he knows nothing of law.

RECENT LITERATURE.

REVIEWS.

REFERENCE HANDBOOK OF THE MEDICAL SCIENCES: VOLUME V.*

No single volume of this series could contain more important and valuable matter than is here presented. The subject of insanity is taken up by a number of authors and very thoroughly covered. So also are those relating to the kidneys, liver, lungs and larynx well represented. There are noteworthy articles on malaria, inflammation, lithotomy and litholopaxy, leprosy, labor, mastoid operations and several others, all of which are signed. The reputation of the whole work is guaranteed in this volume.

*Edited by Albert H. Buck, M. D., New York City. Illustrated by chromo-lithographs and five hundred and seventy-six half-tone and wood engravings. William Wood & Company, New York, 1902.

SAUNDERS' MEDICAL HAND-ATLAS SERIES: ATLAS AND EPITOME OF TRAUMATIC FRACTURES AND DISLOCATIONS.*

We already have very satisfactory treatises on fractures and dislocations, some of them profusely illustrated. There is nevertheless a place for this volume. It will be appreciated by the beginning student of these subjects and the general practician.

*By Professor Doctor H. Helferich, Professor of Surgery at the Royal University, Griefswald, Prussia. Edited, with additions, by Joseph C. Bloodgood, M. D., Associate in Surgery in the Johns Hopkins University, Baltimore. Philadelphia and London: W. B. Saunders & Company, 1902. Cloth, $3.00 net.

PROGRESSIVE MEDICINE: VOLUME III, 1902.*

William Ewart, of London, William S. Gottheil, of New York, and William G. Spiller and Richard C. Norris, of Philadelphia, are the contributors to this volume. They have reviewed respectively: Diseases of the thorax, and its viscera, including the heart, lungs and blood-vessels, dermatology and syphilis, diseases of the nervous system, and obsteterics. The great number of subjects covered and ideas advanced indicate the broad field embraced in this work.

*Edited by Hobart Amory Hare, M. D. Per annum, in four cloth-bound volumes, $10.00. Lea Brothers & Company, Publishers, Philadelphia and New York.

CANCER CELLS, SHOWING VARIOUS FORMS OF THE SO-CALLED CANCER PARASITE

FIG. I.	a, Typical body; b, degenerate form; c, nucleus. (×440).
FIG. II.	a, Typical body; b, nucleus. (×680).
FIG. III.	a, Typical Body; b, nucleus. (×440).
FIG. IV.	a, Body showing ray arrangement; b, nucleus. (×680).
FIG. V.	a, Atypical body; b, nucleus. (×440).
FIG. VI.	a, Atypical body; b, nucleus. (×440).
FIG. VII.	a, Early stages of typical bodies; b, same as seen through the nucleus—c. (×440).
FIG. VIII.	a, Atypical form; b, nucleus. (×440).
FIG. IX.	a, Degeneration bodies; b, nucleus. (×440).
FIG. X.	a, Degeneration bodies; b, nucleus. (×440).
FIG. XI.	a, Degenerating body with a constricting line across its center; b, nuclei. (×680).
FIG. XII.	a, Degeneration body showing red point (b) in its center; c, nuclei. (×440).
FIG. XIII.	a, Degeneration body (intranuclear) staining light blue; b, space surrounding degeneration body; c, nucleus. (×680).

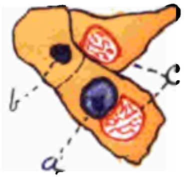

FIG. I

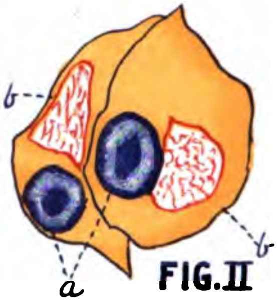

FIG. II

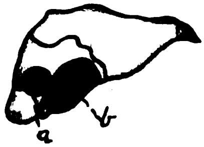

FIG. III

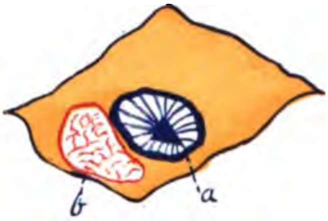

FIG. IV

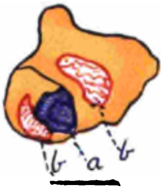

FIG. V

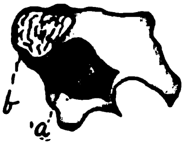

FIG. VI

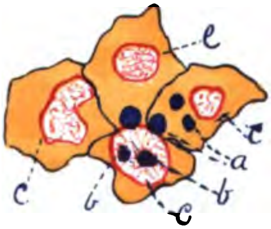

FIG. VII

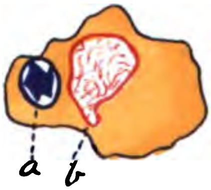

FIG. VIII

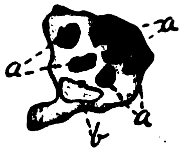

FIG. IX

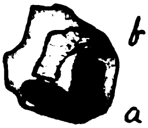

FIG. X

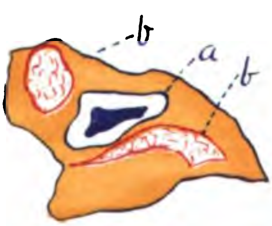

FIG. XI

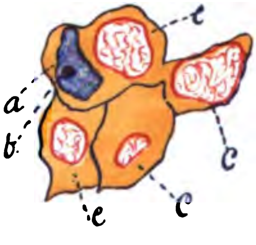

FIG. XII

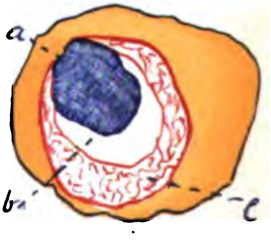

FIG. XIII

The Physician and Surgeon

A PROFESSIONAL MEDICAL JOURNAL.

VOLUME XXV. FEBRUARY, 1903. NUMBER II.

ORIGINAL ARTICLES.

MEMOIRS.

THE ETIOLOGY OF CANCER WITH SPECIAL REFERENCE TO THE PARASITIC THEORY.

By FREDERICK A. BALDWIN, A. B., M. D., ANN ARBOR, MICHIGAN,
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THE etiology of cancer has always aroused much scientific interest both in the clinician and in the pathologist. While the clinicians have attempted to formulate clinical etiologic factors, the pathologists have sought for agents which will produce carcinomata. Men have speculated much upon this subject of etiology and consequently have advanced many theories, the principle ones of which have been the congenital theory of Cohnheim, the inflammation theory of Rippert, and the parasitic theory.

Cohnheim believed that many carcinomata arose from epithelial cells which have become misplaced during the early development of the fetus, and later have proliferated to form the carcinomata. That some few cells do wander from the different "anlage" out into the surrounding mesodermal tissue is true, but most of these cells die. Others may proliferate and form tumors which may become carcinomatous. The hypernephromata found in the kidney, liver, and pancreas are striking examples of Cohnheim's views. In the development of the right adrenal body, very often a small nucleus of adrenal cells may be included in the developing kidney, liver or pancreas. These nuclei of cells may grow to varying sizes and sometimes they become carcinomatous. Other examples of carcinomata which arise from misplaced or included fetal epithelium, are those which arise from the epithelium which may have been included by the closure of the branchial clefts. These tumors are found in the neck and resemble squamous cell epithelioma found elsewhere.

Realizing that Cohnheim's theory explains the origin of some carcinomata but that it does not explain a large number of these new growths, Rippert advanced the theory that many carcinomata arise from chronic inflammatory changes. For example, he was able to demonstrate in lupus epithelioma that the tuberculous granulation tissue grows up between the papillæ of rete Malphigi of the skin, and as these papillæ are lengthened by this upward growth of the granulation tissue, the epithelial cells are put under abnormal conditions, some of them becoming completely isolated from the other cells of this layer. Under these abnormal conditions, the epithelial cells may proliferate atypicly and form lupus epithelioma. A similar condition exists in those carcinomata which arise in old lacerations of the cervix or old healed ulcers in the stomach or skin. The frequent and continued use of a pipe and the inhalation of the smoke may cause epithelioma of the lip or the pharynx by the chronic inflammatory changes which may result.

This theory failed to explain many carcinomata, and men began to look for parasites which would cause cancer. Various workers have discovered what they claimed were cancer parasites, only the more important of which are worthy of consideration.

In 1890, Russell found, in certain carcinomata, small round or oval homogeneous bodies which stained deeply with eosin and acid fuchsin. He found these bodies both in the cancer cells and in the connective tissue surrounding them. He could not cultivate these bodies, nor was he able to inoculate animals with them, nevertheless he took them for cancer parasites. Since the publication of his work many observers have found bodies agreeing with every detail of his description in chronic inflammations in various places.

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In 1895, Sanfelice injected a culture of a pathogenic yeast into the mammary gland of a dog. The region about the point of injection became reddened and swollen, but these passed away in a few days and nothing more was noticed for ten months, when a tumor began to form in the mammary gland and the inguinal and axillary lymph nodes began to swell. He killed the animal and examined the tumor. In small pieces of the tumor which he examined in glycerin he could not find any of his free yeast cells. From section of the hardened tumor he diagnosed it as a probable carcinoma. In the periphery of the tumor he found small round, double-contoured, highly refractive bodies which were present in the tumor cells and which he took to be yeast cells. Sections taken from the center of the growth showed none of these bodies. Inoculations of his original yeast in all other experiments either killed his animals outright or produced tumors having the structure of fibrosarcoma and containing the yeast cells.

Following this, Plimmer, in 1899, described certain bodies which he found in practically every case of carcinoma arising from columnar epithelium, but he found them most abundantly in carcinomata of the mammary gland. He found the largest number of these bodies in the areas of latest growth of the rapidly proliferating carcinomata. He noted also that scirrhus carcinomata and those which grew slowly showed but few of these bodies.

In 1900, Schüller described a body which he found in sarcoma and carcinoma, and which he called a parasite. This body was round or oval, golden-brown to brown in color, and highly refractive. It measured three to four times the size of a red blood cell, and in some of these he claimed to have seen pseudopodia-like projections through the capsule. In specimens which had been fixed, he said that the contents contracted away from the capsule, leaving a space just under the capsule. In all his inoculation experiments he produced nothing but peritonitis.

In the same year, Sjöbring implanted carcinoma bits into the subcutaneous tissue of dogs. In some cases abscesses resulted, some of which healed but others left fistulæ. Around these abscesses he found a growth of tissue resembling sarcoma, in which he found the hyaline bodies of Russell. He implanted similar material under the testicular tunics of young dogs. No tumors formed, but, in the cells of the testes, he found round bodies which consisted of a capsule enclosing the finely granular contents, which contained a centrally placed dark spot. He thought that these were cancer parasites. When he attempted to fix these bodies they disintegrated and left only fat droplets.

These workers found it difficult to classify their parasites. Russell, Sanfelice and Plimmer believed that their parasites were yeasts; Schüller did not know whether his was a vegetable or an animal parasite, and Sjöbring thought that his belonged to the rhizopoda. About this time, a disease of cabbage was described from which one of the myxomycetæ was isolated—Plasmodiophoria Brassica Woronin. This unicellular vegetable organism resembled very closely the bodies described as cancer parasites.

Having noticed this fact, Podwyssotzka studied its action upon animals. He injected cultures of this organism into different regions of various animals, and found that it caused a proliferation of the connective tissue cells, which resembled sarcoma, endothelioma or the chronic granuloma. The cells of the younger growths contained few spores, due to the phagocytic action of the tumor cells. All of the spores were surrounded by fat drops. When he attempted to find these organisms in cells from different carcinoma and sarcoma, he could find many cells containing fat drops, but he could not find anything which corresponded to the plasmodiophoria. From his study of this organism, he concluded that it formed no malignant growths, due to the phagocytic action of the connective tissue cells.

In 1901, Bra published the results of his study of various forms which he had isolated from malignant growths and which he had cultivated. These bodies were very abundant in the blood, especially near the carcinoma, but he obtained his cultures from blood drawn from the finger. In a few days he obtained mycelial threads and conidia from the surface of his culture. The spores were round or oval and highly refractive. Injections into animals produced small nodules resembling "sarcoma in structure"

The work on this question which interests us as Americans is that published by Gaylord in 1901. He took the ascitic fluid from a case of adenocarcinoma of the appendix and injected it into the jugular vein of a guinea pig. In the fresh ascitic fluid he found bodies which were round and highly refractive, and which he took for parasites. They resembled fat drops but they did not stain black with osmic acid. He killed the guinea pig in two months, and in the lungs he found small nodules which showed the structure of adenoma. He found bodies in every tumor cell which resembled his original parasite, but cultures from these cells were negative. He performed other similar experiments, from which he concluded that he found parasites in all of the organs during the stage of cachexia, and in the latest stage he found them in the blood. When he classified his parasite he called it a protozoa similar to the coccidia oviform, a common parasite of the biliary tract of the rabbit.

In 1902, Feinberg described another parasite. He stained sections with the Romanowsky stain, and in the cells of carcinomata he found round bodies which stained blue like ordinary protoplasm, and which contained a red point. From the staining properties, he concluded that these bodies were protozoa.

In the same year the Cancer Committee of the Surgical Department of the Harvard Medical School made its second report. Tyzzer had worked with coccidia; White and Robey with molluscum contagiosum; Richardson with cultures from malignant tumors, and Weis with four pathogenic tortulæ; Nichols had studied the relation of blastomycetæ to cancer, and Greenough the cell inclusions in cancerous and noncancerous tissue. The conclusions of their work were that coccidia and blastomycetæ caused a chronic inflammation; that the lesions of molluscum contagiosum are changes in the epidermis only, and are not analogous to those of cancer; that blastomycetæ are not constantly present in carcinoma; that the so-called blastomycetæ (sacchromycetæ) of Sanfelice and Plimmer are tortulæ and that the peculiar bodies in the protoplasm of cancer cells are not parasites, nor the causes of the lesions, but probably are, in part at least, atypic stages of the process of secretion of the glandular epithelium.

In the autumn of 1900, work was begun upon this subject of the so-called parasites in the Pathologic Laboratory of the University of Michigan, with the aim of ascertaining more about their morphology. Carcinomata from various parts of the body were examined, but as the carcinomata from the breast showed the largest numbers, most of the material used came from carcinomata of this region. Small pieces were taken from the center and the periphery of the primary and from the secondary nodules in the lymph nodes. These were fixed in bichlorid, Zenker's fluid, Flemming's solution, alcohol or formalin, and stained by various methods. With the Mallory connective tissue combination these bodies showed a marked difference in staining properties, and consequently this stain served as a basis for a large part of the study of these bodies.

The morphologic characteristics of these bodies vary in different parts of the tumor and in different areas in a given section. Sections taken from material which has been fixed with Zenker's or Flemming's fluids show more of these bodies than the sections from material fixed with slowly-fixing agents. Sections taken from the peripherey contain most of these bodies, and in these sections they show the greatest variation in size, shape, and staining properties. All of the cells in these sections do not contain the bodies in question, but if a cell does contain one or more of them, the body is present in the protoplasm and the nucleus is indented by it in such a manner that the nucleus forms a cap for the body. With hematoxylin and eosin, all of the forms resemble each other so closely that no differences in structure are distinguishable, but with Mallory's combination and kresylechtviolett, definite forms can be made out, between which a definite relation exists which points out that they are but different stages toward a definite end product. In other words, there is an evident gradation from one stage through others to a final one.

In cells which show what I believe to be the simplest form, a small round refractive body is present. This body possesses a narrow capsule-like ring that does not take any stain and which surrounds the body contents, which stain deeply red with the Mallory combination and a sky blue with kresylechtviolett. Other bodies are present in different cells, which are about the same size as the ones just described, but whose capsules take a bluish red. Beneath this capsule is a clear zone about as thick as the capsule. This clear zone surrounds a granular central mass, about the size of a red blood cell, which stains bluish red with Mallory's combination. With kresylechtviolett, the capsule stains a deep blue and the central zone a pinkish color. Then others are seen which are somewhat larger than the preceding form. The contents of these take a deep blue with Mallory's stain and a turquoise blue tinged with pink with kresylechtviolett. Accompanying these are bodies of the same size, which stain a distinct purple and which show distinct lines of pink radiating from the center to the capsule. These rays seem to be somewhat regularly arranged in some cells, while in others they are not arranged so definitely. In the same field or nearby fields larger bodies are present in which the deeper staining centers are smaller and the rays lose their regular arrangement. Alongside these last named bodies others are present which show nothing but a granular and stringy debris, staining reddish violet with kresylechtviolett or turquoise blue with Mallory's stain.

Accompanying all of these forms are others which closely resemble the bodies described above, but they are so finely granular in structure that they appear homogeneous and they stain yellow with the Mallory combination. These bodies are present in the protoplasm and have no defínte relation to the nucleus.

As intimated above, some cells may contain more than one of these bodies. Often it is possible to find cells which contain as many as five or seven of these bodies arranged like a cluster of grapes in a cup-shaped depression of the nucleus. As a rule, only that form is found multiple which has the bluish red capsule enclosing a similarly colored center. Most of the individuals of a cluster are smaller than those found singly. However, it is possible to find a few cells which contain several of the finely granular turquoise blue bodies. In such cells, some of the bodies may be out in the protoplasm some distance from the nucleus.

From a study of the specimens it seems very clear that other workers have seen the same bodies, but they have misinterpreted their meaning. Plimmer saw them and called them parasites; Sanfelice found similar bodies in the cells of the testes of his inoculated dogs and called them the same; it is probable that Schüller described certain stages of the same thing, although some German authorities, especially Lubarsch, say that Schüller saw nothing but cork cells which were present in his sections as the result of careless technique, and Sjöbring saw the same body first seen by Plimmer. All were looking for a cancer parasite and concluded that this was the object they sought. When they attempted to classify it they could not, for protozoa and the corresponding low forms of vegetable organisms do not produce cancer when injected into animals.

That these bodies are neither animal nor vegetable organisms seems clearly shown by the repeated failures to cultivate organisms by observers such as Richardson and Lubarsch. In practically every case in which inoculation experiments were made, the tumor produced was called a sarcoma or a granuloma. At present it is generally known that very often it is impossible to distinguish chronic granulation tissue from the varieties of sarcoma which these workers have produced by their inoculations, and, judging from their descriptions and from their drawings and photographs, it seems very clear that they have not produced true sarcoma but rather a chronic granulation tissue, especially since none report true secondaries. Other workers have claimed to have produced carcinoma, but their results have varied so markedly that the carcinomata found may have been an accidental finding. In a few words, then, no one has shown conclusively that the so-called cancer parasites cause cancer, nor has any one shown conclusively that they are either animal or vegetable organisms.

If these bodies are not parasites, what are they? The answer seems plain. If these bodies are not stained, it is impossible to distinguish one form from another. The yellow-staining body cannot be told from the red or blue or the final granular stage. With Mallory's combination and kresylechtviolett, it is possible to trace the gradual formation of the granular or end stage which, with many of the specific stains, gives the characteristic reactions of mucin. What part of the cancer cell degenerates to form this mucin cannot now be stated, but it is very probable that it is the centrosome, since the mucin always occupies the position of the centrosome, and only the most rapid fixing agents will preserve these bodies of mucin.

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SURGERY OF THE URETHRA AND PROSTATE.*

BY FRANK B. WALKER, PH.B., M. D.. DETROIT, MICHIGAN.
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FOR the purposes of this paper only some accepted views and newer thought concerning the following aspects of the subject will engage your attention: Urethritis, ulcer, stricture, polyp, and rupture of the urethra, and inflammation and hypertrophy of the prostate.

There are three varieties of urethritis, each having its own peculiar line of symptoms. First, the primary acute gonorrheal urethritis, characterized by severe inflammation coming on from three to seven or maybe ten days after exposure, and by the presence of gonococci. Next the secondary form of gonorrheal infection, the result of the lighting up of a latent, uncured previous gonorrhea by some act or excess of the patient—an autoinfection. In this form the active symptoms appear in from one to three days. Gonococci are present. The third variety is a pseudogonorrhea, characterized by the absence of gonococci, a longer period of incubation and, symptoms less severe but of long duration. In this form the discharge may not appear within two weeks from exposure. In it have been found the staphylococcus albus, streptococcus pyogenes, bacilli coli and bacilli pyocyaneus. Gonorrhea is primarily an affection of a mucous membrane, but the presence of the microorganism has been repeatedly proven in the blood and in metastatic inflammations in other tissues.

*Read before the WAYNE COUNTY (Detroit) MEDICAL SOCIETY.

The perfect control of the infecting agent and the absolute cure of urethritis are ideals still sought for. It is certain, however, that a systematic and effective plan of treatment is rapidly being developed. The application of the principles of hygiene, bodily rest and diet are generally well understood, and even with the newer aids are as important as ever. Internal medication is less strenuous than formerly, but the timely and intelligent use of urinary antiseptics, saline cathartics, sedatives and tonics is indicated for the disease and comforting to the patient.

Inasmuch as urethritis is esentially a local affection, its local treatment naturally receives the most respectful attention. About this, however, there are differing opinions and methods of practice, which may be understood to indicate our frequent failures. Since the recognition of the value of the Janet treatment, many advise thorough irrigation from the very beginning. Some cases treated thus early terminate favorably in a few days. Others react so badly that the practice seems condemnatory. The kinds of solutions and strengths of them vary also. The cheapest, most useful and most generally employed drug for purposes of urethral irrigation is permanganate of potassium. A watery solution of this drug, having a strength of one to four thousand, is recommended for use during the first week. During the second week and thereafter a strength of one to two thousand is generally used.

Experience has taught me to be less radical than the rules usually set forth. I secure the best results by allowing the more acute symptoms to subside before beginning irrigation. Even then I prefer to begin with a solution of one to six thousand or one to eight thousand, gradually increasing the strength as conditions seem to warrant. I have had more experience and generally better results with permanganate of potassium than with the silver compounds. The latter are of great value, as they have been observed to exert a special effect upon the gonococcus. Of the several compounds proposed argonin and protargol are the favorites. Argyrol, a new compound of silver with a proteid obtained from wheat, is the latest proposition. To judge by reports from reliable specialists, it is certainly deserving of a fair trial. It is said to be very soluble in water, is not precipitated by any of the tissue salts, and does not coagulate albumin.

The presence of other organisms than gonococci has been mentioned. Of these the bacilli coli and the bacillus pyocyaneus persist so long that they have been considered by some to drive the others out. It is a fact of observation that silver injections do not have the same effect upon other organisms as upon the gonococcus. Sooner or later it becomes apparent to every genitourinary practician that there is no specific for urethritis. A mild antiseptic and astringent is the remedy indicated. A single drug may be used successfully throughout the treatment of one case. Another case may do better with a silver injection at first and later with hydrastis or some salt of zinc.

The cure of gleet will often depend upon the treatment of some other urethral condition, as ulcer or stricture. By the two glass and three glass tests the condition of the anterior and posterior urethra, prostate and seminal vesicles may be approximately determined. With the endoscope ulcerating surfaces may be located, and with bulbous sounds the location and extent of strictures may be learned. Through the endoscope the former may be specifically treated. Strictures should be so treated as to be completely dilated. Strictures of the meatus always require incision. Deeper strictures of the spongy portion of the urethra ordinarily succumb to patient, persistent, gradual dilatation. Owing no doubt to both the thorough irrigation plan of treatment and to more intelligent dilatation, internal and external urethrotomy have seemed to be less indicated in recent years.

Urethral polyp is comparatively rare. It may be diagnosed and removed by the aid of the endoscope.

Rupture of the urethra is by no means of rare occurrence. It may happen as a result of traumatism or it may occur in connection with some pathologic process, as periurethral abscess or stricture. It is much more frequently met with in the fixed than in the pendulous portion. Traumatic rupture of the urethra may result from a fall or any blow which strikes the perineum and forces the urethra with it against the pubic arch, from fracture or contusion of the pelvis or from careless instrumentation of the urethra. It is a condition of serious moment, since life may be jeopardized by retention or infiltration of urine, or by gangrene, inflammation and abscess. It is therefore a subject of interest to the general practician, for upon him may depend the early diagnosis and prompt aid which a favorable outcome may require. The treatment of this condition consists in providing a urinary channel. A soft catheter may be tried first. If it fails to pass, a metal catheter may be used by an experienced hand. If successful, either may be left *in situ* for a few days. If neither can be inserted, suprapubic puncture may be a palliative measure. If the rupture be complete, which condition likely exists if catheterization be unsuccessful, perineal section is demanded, and drainage through the perineal wound.

Prostatitis is in most cases a sequel of gonorrhea. The acute form may sometimes be aborted before suppuration ensues by rest in bed, free catharsis and local application of cold or leeches. Should pus form, early perineal incision may prevent extensive burrowing through the prostatic tissues and into the urethra. Chronic prostatitis is often a tedious process. Thorough irrigation, massage and general hygienic measures will in the end cure many cases.

The etiology of hypertrophied prostate is still disputed. Upon one point the profession seem agreed. It is that the enlargement is not in the nature of a true neoplasm. The view finds favor with some that it is the result of chronic prostatitis, as chronic prostatitis results from chronic posterior urethritis. Belfield has recently expressed the opinion that "There are good reasons for suspecting that the cause of prostatic hypertrophy will some day be found in a perverted testicular secretion." However this may be, it is of interest to note that in eunuchs and in those whose testicles were absent or had never functionally existed the prostates have not been enlarged.

The treatment of prostatiques is still a vexed question. In spite of the vaunted cures or reliefs the medical treatment has made no progress. Internal antiseptics such as salol or some preparation of formaldehyd, and irrigation for the accompanying cystitis constitute the sum total of this kind of care. On account of the great probability of sepsis it is beginning to be felt that in general the less the catheter is used the better. It is almost certain that in most cases mixed infection dates from the first instrumentation.

The surgical treatment of enlarged prostate has developed somewhat. Castration and vasectomy have been proven insufficient and often ineffective. They may be said to be no longer on trial. The Bottini operation has been commended by few but rejected by more. It seems to me that the very principle of the blind procedure cannot make friends even in such a hopeless cause as this dread condition. A new method of cautery treatment consists in thrusting the cautery point into the prostate from behind, using a rectum speculum and holding the gland in firm position by means of a tenaculum. Great shrinkage has been reported to follow this method of treatment. Prostatectomy seems to enjoy the greatest consideration. The suprapubic route finds an occasional advocate. It is evidently more especially indicated in cases of intravesical enlargements. Perineal prostatectomy is a difficult operation, but it furnishes the most direct route both for removal of the gland and for drainage. The results from this method of treatment are generally better and more permanent. The most recent discussion has related chiefly to the manner of incision. A simple linear incision meets the requirements of some. Ferguson, for instance, uses his f-shaped retractor through such an opening. Murphy has described an inverted y-shaped incision of rather large dimensions, through which he shells out the three lobes separately. In the *Journal of the American Medical Association* for December 18, 1902, Andrews described an "infrapubic method" by means of which he has performed prostatectomy without opening the urinary tract. His modification is based upon the idea that urinary obstruction results from the fixed position and consequent pressure of the enlarged prostate by the ligaments and muscles of the pelvic outlet. The principle is new and needs more practical study.

A CASE OF TYPHOID FEVER.*

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Only two patients with undoubted typhoid fever have died at the University Hospital during the past six years. Fortunately autopsies were obtained upon both of these patients. Such cases are always instructive. I have selected for discussion this evening the most recent of these cases, the autopsy upon which was performed by Doctors Baldwin and Morse.

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*Read before the Washtenaw County (Ann Arbor) Medical Society.

The following are the salient points in the history. The patient was admitted to the University Hospital August 16, the twelfth day of her illness. She was a cachectic-looking woman fifty-six years of age. Her mind was clear, but acted slowly. She was extremely nervous and pessimistic about the prospects. She complained of fever, headache, loss of appetite, bad taste in the mouth and weakness. She first felt sick on August 5. At this time she complained of nausea, loss of appetite, pain in breasts, and chilly sensations at night. These symptoms gradually grew more severe until August 11, when she had a severer chill than usual in the evening and took to her bed. Laboratory examinations assisted largely in the rapid diagnosis of the case. The Widal reaction was positive with a dilution of one to forty; the diazo reaction showed a red ring and pink foam and the leukocyte count was seven thousand six hundred. After entering the hospital the case progressed as follows:

Temperature.—It remained in the neighborhood of 102° to 103° until the nineteenth day of her illness, when it fell to normal. At this time I thought the patient was passing into convalescence, but during the next two days the temperature rose to 102°. Again on the twenty-second day it reached normal. To my surprise there was another elevation, reaching 102.6° on the twenty-fourth day of the disease. On the twenty-fifth day it again came down, touching 98.6°. The next day it suddenly rose, and on the twenty-seventh day, just before death, reached its highest mark, 105.9°.

Abdominal Signs and Symptoms.—The abdomen was considerably distended. The spleen could not be felt. Rose spots were not seen until about the end of the second week. Moderate diarrhea, four to six stools daily, continued throughout most of the sickness. At times the tympanites was quite marked. Small amounts of blood appeared in the stools in the form of clots on the fifteenth and nineteenth days. An instructive incident occurred at this time. The medical interne, Doctor Cleaves, was sent for in haste by the nurse because of a large hemorrhage. The patient's general condition, however, contradicted this idea. Examination of the bloody looking fluid passed showed no red blood corpuscles and gave a negative guaiac test. Later it was learned that the nurse had been feeding the patient current jelly dissolved in water, and that undoubtedly had colored the liquid stool. At about this time stools and urine were passed involuntarily, the mind became dull, and it was necessary to catheterize the patient regularly. Albumin appeared in the urine, reaching on the nineteenth day one-fourth volume. There were also hyaline and granular casts. The volume of albumin was about one-thirty-second most of the time after the nineteenth day.

Heart and Lungs.—The heart was weak and showed on admission a soft blowing systolic murmur at the apex. The pulse rate varied at first from ninety to one hundred; but on August 29, the middle of the third week, the pulse became very rapid, 140, and weak, and the heart action was of the fetal type. From this time until death the heart remained very weak and at times very rapid.

The lungs were negative until the day previous to death, when the breath sounds became much harsher on the left side than the right. This might have been due to a beginning pneumonia, but more likely to an increasing hypostatic congestion.

Complications.—The only complication of any moment was a sloughing, septic-looking bed-sore over the sacrum, which appeared a few days before death.

Treatment.—Contrary to the custom in Doctor Dock's clinic, the patient was not given cold tub baths. This breach of routine was decided upon because of the advanced age and weakness of the patient, the only moderate fever, and the late stage of the disease on admission. Sponge baths were substituted.

The tympanites was not at all relieved by fairly large doses of salol, but responded quickly to acetozone. The diarrhea was not affected by bismuth, but was controlled by paregoric. On the appearance of the slight hemorrhages the patient was given suprarenal extract in large doses, every three hours. For the heart failure strychnin and digitalis were administered. It was impossible to get the patient to take sufficient nourishment; the amount varied from nine hundred to sixteen hundred cubic centimeters daily.

Autopsy Findings.—Typical typhoid ulcers involved the Peyer's patches of the ileum for a distance of about three feet above the ileocecal valve and were present in the colon for about two feet. They were all of about the same age, those in the colon being a little younger than those in the ileum. Practically all had penetrated the mucosa to the muscular layer. None had perforated. They had not yet begun to show signs of healing. It is an interesting fact that about one-third of the cases of typhoid show ulcers in the colon. In the literature, cases are recorded in which the typhoid ulcers were found in the stomach and esophagus. The heart showed fatty degeneration, the lungs hypostatic congestion, and the kidneys cloudy swelling.

The two most interesting queries in connection with the case are: What was the cause of the secondary rise of temperature? and, What was the cause of death?

In answering the first question one must consider overfeeding, constipation, relapse and the various complications. All of these can be excluded except the complication of the bed-sore. It seems most likely that this is responsible for the septic temperature curve in spite of the fact that there was never a leukocytosis.

Why did the patient die? None of the microscopic lesions found at the autopsy in themselves seemed sufficient to account for the fatal issue. This question can be answered as follows: Typhoid patients at this advanced age and in such a cachectic condition rarely recover. The typhoid intoxication and the absorption of toxin from the bed-sore combined to overcome the weak and fatty heart.

In these days of the Brand treatment, bed-sores are almost unknown quantities, while in the old days they were looked upon as an essential part of the disease. The cachectic condition of this elderly woman was undoubtedly responsible for the development of the bed-sore.

After the fortieth year, the disease runs a less favorable course, the mortality being high. Of sixty-three fatal cases in Osler's clinic, seven were over forty. The fever is not as high, but complications are more common, especially pneumonia and heart failure.

The cause of death in typhoid is usually considered under three headings:

(1) Progressive asthenia, the result of either a rapid or slow action of the poison, or a direct sequence of diarrhea.

(2) Intercurrent affections or complications.

(3) Accidents of the lesion, that is, hemorrhage or perforation.

TREATMENT OF LUPUS VULGARIS AND INOPERABLE TUMORS WITH THE ROENTGEN RAYS.*

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There has recently been a rapid increase in the number of favorable results obtained by the application of the Roentgen rays in the treatment of lupus vulgaris and malignant tumors. Daily additions are being made to the literature of this subject. My purpose in presenting before you a few of the patients which I have treated in this way at the University Hospital, is to give additional testimony of its value and also to show that not all cases of inoperable malignant tumors are amenable to this treatment. In some of these cases actual harm may be done, both by stimulating the local neoplasm to renewed growth, and by increasing the general exhaustion through the absorption of the products of retrograde metabolism and possibly septic infection. It is of some importance at this time to determine the limitations of this valuable method in therapeutics so that in our anxiety to apply it to every possible diseased condition we may not deprive it if its real value in carefully selected cases.

Case I.—A married man, aged thirty-one years, was sent to the hospital by Doctor Nancrede for the treatment of an ulcer of the upper lip with the Roentgen rays. The family history was negative. The present disease began eleven years ago, when, after shaving, the patient noticed a little red papule about the size of a pin-head upon the upper lip. He thought it was a scar. About three years later white scales formed upon it. Treatment was begun by his physician by means of zinc ointment. Patient did not improve and the condition continued the same until about three or four years ago, when it began to infiltrate and the central portion broke down, forming an ulcer.

There is an area of redness which extends from the right side of the nose onto the cheek, and is covered with white scales. There is a little irritation and some itching in this region, but no pain. On the right upper lip, about midway between the angle of the mouth and the middle line, there is an ulcer which first appeared about four years ago and is about one-fourth of an inch in diameter. It contains a cheesy mass of detritus and has well-defined thin edges. In the skin, immediately above the ulcer, were a few small red papules with a small zone of redness about them.

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*Read before the Clinical Society of the University of Michigan.

Treatment with the Roentgen rays was begun October 2, 1902. The face was covered with a mask of sheet lead in which an opening was cut for exposing the ulcer on the lip to the action of the Roentgen rays. The exciting tube was placed at a distance of twenty centimeters from the face. The length of exposure was five minutes in the beginning and later on seven minutes. An attempt was made to avoid exciting any erythema or dermatitis in the neighboring skin, in which I was successful. As soon as any redness, heat or irritation appeared on the surrounding skin, the treatment was interrupted for a few days and repeated at longer intervals. The number of exposures was thirty-four. The strength of the current passing through the coil when the vacuum tube was connected was measured by an electrodynamometer and found to be five amperes at ten volts. The number of interruptions were five hundred to the minute. The spark gap on the coil is eight inches, but this was kept reduced to about an inch.

Freund says that when the Roentgen rays are used for therapeutic purposes, the current should be twelve volts of fifteen amperes strength. The spark length of the coil should not exceed thirty centimeters and the interruptions should be eight hundred to one thousand per minute. Williams, of the Boston City Hospital, used a current of one and one-half to two amperes at two hundred and twenty volts, and a coil with a sparking length of seventy-five centimeters in treating lupus, without producing dermatitis, much less excoriation or gangrene.

In this patient, while under treatment, the successive steps in the healing process were quite noticeable. After about five or six exposures the secretion from the ulcer began to dry up and scabs formed which later fell off. The redness around the border of the ulcer disappeared and a smooth white scar formed. Under continued exposure to the *x*-rays the nodules around the ulcer diminished in size and hardness, finally disappearing entirely. At present there is a narrow linear white scar running from the lower margin of the site of the previous ulcer to the edge of the lip. The ulcer has now remained healed for two months, not by the formation of a scab, but by a smooth white scar. No pathologic report could be made from the contents of the ulcer previous to treatment, but the diagnosis of lupus vulgaris is fairly well substantiated by the history and the clinical appearances.

Doctor Holland, of Liverpool, recommends that the Roentgen rays be used in lupus vulgaris before any other method is adopted, whereas Schiff, of Germany, would limit its use to inoperable cases. Holland reports two cases of lupus vulgaris of five years' duration that had been scraped and cauterized before treatment by the Roentgen rays. The ulcer in the first case involved the lobe of the left ear and extended from there to the left side of the chin. It was given seventeen exposures of fifteen minutes each. There was a slight recurrence after nearly two years, when six more exposures of ten minutes each were given. The ulcer in the second case was a little larger than a halfpenny and was given six exposures of ten minutes each. We believe that there is more danger of exciting dermatitis by these prolonged exposures than by shorter ones.

Doctor Greenleaf, of Buffalo, believes that patients who have not been subjected to surgical interference recover more rapidly under exposure to the Roentgen rays than others. In one case which he reports, wherein there had been no surgical treatment, good results were obtained after twelve exposures to the Roentgen rays. In the case which I report no surgical treatment was employed.

Of seven patients reported by Hyde, of Chicago, two are cured, two are nearly well, and the remaining three are improved.

CASE II.—A married man, aged forty-one years, and a farmer by vocation, was admitted to the hospital November 22, 1902, and left December 12, 1902. His present affliction began about one year ago as a cold sore. This would scab over but never healed. It has grown larger and more painful in the last six months. He has had no sores anywhere else. He had pneumonia (lung fever) three years ago last spring, and has a hemorrhage from the lungs once in a while, sometimes quite severe. He has a hacking cough, especially in the morning.

Percussion over the front of the chest showed diminished resonance over the right apex. Auscultation showed a prolonged expiratory sound. The heart dullness was not enlarged. There was a small ulcer, covered with a scab, upon the upper edge of the lower lip. The edges of the ulcer were slightly undermined. Treatment consisted of daily exposures to the Roentgen rays for six minutes at a distance of twenty centimeters, and the ulcer was gradually healing when the patient left the hospital.

CASE III.—A married man, aged sixty-five years, and a liveryman by occupation, was admitted to the hospital, November 17, and left December 12, 1902. Patient uses tobacco excessively and alcohol moderately. His meals are irregular. He partakes of plain food, and eats quite rapidly. He sleeps three or four hours at night, and does not tire easily. Family and personal history are negative. He had the diseases of childhood with a good recovery. A fracture of the right femur was sustained by him about four months ago.

The present affliction began about seventeen years ago, when the left side of his face was frozen and he scratched it with his fingers. At first he noticed a little sore on his face which would heal and break down later. About six months ago he began treatment, but his condition grew worse. Then he consulted a "cancer doctor" whose treatment he could not endure on account of the severe pain produced. The growth has gradually increased in size during the last month. It has never discharged very much. The edges are greatly indurated and there is a slight discharge from the center, which is depressed. In the left cheek there is a large cauliflower mass of new tissues about two inches in diameter. Its surface is covered with a creamy gray discharge. The infiltration extends about an inch beyond the prominence of the tumor at the edges. It bleeds easily. The skin is very red and infiltrated in the neighborhood of the tumor.

It was treated with the Roentgen rays daily at a distance of six to eight inches for five minutes' exposure. There were twenty exposures in all. The first effect was a drying up of the discharge and the formation of scabs upon the surface of the growth. Later on some sloughing took place at the center of the growth with some apparent diminution in size. The tumor, however, continued to grow rapidly, especially in the upper portion toward the left eye, in spite of the continued exposure to the Roentgen rays. A portion of the tumor was removed for pathologic examination and diagnosed as epithelioma by Doctor Waldron. The patient had a small area of apparent new growth upon the right cheek. This lesion was in the form of a small papule covered with a scab. The skin was red, hard and infiltrated in the neighborhood. This ulcer was also treated by exposure to the Roentgen rays and was nearly healed when the patient left the hospital.

Through the kindness of Doctor Peterson I am permitted to report this history taken from the records of the gynecologic clinic.

Case IV.—A married woman, aged fifty-four years, was admitted to the hospital March 10, 1902. Her family and personal history were negative. Menstruation first appeared at the age of sixteen. The date of the last period was in 1892. She was regular, the duration being about seven days, and the amount large with clots. She has been married thirty-three years and has four children, the oldest being thirty-one and the youngest twenty-two years of age. The average duration of labor was twenty-four hours. She had one abortion over twenty years ago. She had chills and fever with the first and the last child. Her appetite was poor, digestion fair, bowels regular.

About the last of October, 1901, the patient first noticed continued burning and itching along the inside of the thigh. This gradually grew worse and approached the vagina. About December, 1901, her physician began treating her for what he called an abscess. About six weeks ago he opened the abscess, and after this the patient felt much better. During the time he was dressing it a swelling appeared, following a burning sensation, and itching and burning were replaced by soreness.

An examination was made by Doctor Peterson on March 11, 1902, under ether anesthesia. He found the clitoris and labia minora and majora to be the seat of an ulcerated mass, excavated in the center, the surface covered with a dirty gray purulent discharge. The edges of this ulcerated surface were indurated. The whole mass was movable and apparently not attached to the pubic bones. The mass involved the clitoris and labia and extended down for one and one-half inches. The right labia minora was excoriated by proximity to the sloughing mass. There was no involvement of the urinary meatus, the edge of the growth being one-half inch away. The perineum was ruptured, and there was a slight rectocele. The inguinal glands apparently were not enlarged. The cervix was atrophied, but the body of the uterus could not be made out.

The patient was operated upon March 11, 1902, by Doctor Peterson. The actual cautery was used at a dull red heat and the entire growth seared. After being cleansed as thoroughly as possible with cotton saturated with bichlorid one to five hundred, an incision was made from two inches above the vulvar cleft around well outside the growth and below the perineum. This was dissected up and cut around the vagina inside of the sphincter vaginæ. The same was done at the urethra. Silkwormgut sutures were passed from the outside skin to the inside of the vagina, and the same was done on the urethra. He ordered the attendant to let her urinate and to douche off the parts thoroughly. On March 21, 1902, the sutures were removed by Doctor Pray and the wound was found to be healed. The urethra stands out well and the parts resemble a normal vulva at a short distance, except below, where there is a slight gaping.

Doctor Warthin made the following pathologic report of tissues removed: "Carcinoma of the vulva. The growth partakes more of the nature of a carcinoma simplex than epidermoid cancer, but in a number of places shows tendency to carnification."

Blood examination showed eighty per cent of hemoglobin, 4,537,500 red and 11,204 white blood corpuscles. The patient was discharged March 31, 1902.

She was readmitted August 7, 1902. She had no discomfort at all until June 1, 1902, when she injured herself in the left inguinal region while passing through an open door with a tray. She had pain in this region for a week and then noticed a "bunch" there. This gradually increased in size. It grew rapidly during the last ten days previous to admission until it reached the size of a small peach. There was continual pain in the growth, which was worse when the patient was on her feet.

Examination was made by Doctor Peterson August 7, 1902. Except for absence of the clitoris and vestibule it would have been difficult to tell that an operation had been performed upon the vulva. There was a white cicatrix running from one-third an inch above the meatus on both sides down to the perineum, showing lines of former incision. There was a depressed cicatrix upward, two inches from the meatus. There was a hard indurated area extending from the spine of the pubis upward to within three inches of the anterior superior spine along Poupart's ligament. Right over Poupart's ligament this swelling was hard and nonsensitive. Below Poupart's ligament there was a fluctuating area extending from the pubic spine upward for about two and one-half inches. This was red, sensitive, elastic, and fluctuating.

On August 8, 1902, an operation was performed by Doctor Peterson. A long incision parallel to Poupart's ligament on the left side opened into a cavity containing caseating broken-down material. The cavity admitted the entire forefinger. All the glands were removed.

On September 7, 1902, examination showed that the wound had healed by first intention. There was some redness along both edges about one inch from the cicatrix, which remained somewhat tender on deep pressure, especially at the upper angle of the wound. Pathologic examination of the inguinal glands showed secondary carcinoma in some areas infiltrating the overlying dermis.

The patient was now referred to the surgical clinic for treatment of recurrence in the wound with Roentgen rays. This was begun August 22, 1902. The exposures were made daily except Sunday at a distance of eight inches, for six minutes, until twenty-two treatments had been given, when the patient went home. There were no symptoms giving rise to serious apprehension during this period. The patient was also given one-fortieth grain of arsenic bromid three times a day for twenty-five days.

The patient returned to the hospital September 27, and the tumor was again exposed to the Roentgen rays about every third day. After three such treatments the skin over the tumor became intensely red and tender upon pressure, a severe dermatitis having been set up. The tumor began to grow very rapidly, indeed, extending downward toward the thigh and upward upon the abdomen. The increase in growth seemed to be much faster than at any previous time since it had come under our observation. The patient complained of more pain in this region and suffered from nausea and vomiting, not being able to sleep at all. In the central portion of the tumor, fluctuation could be felt, as though some fluid were present. On October 5, 1902, the pain in the hip and thigh became very severe and the tumor ruptured in its central portion, discharging a yellowish fluid which upon examination was found to contain fat and broken-down epithelium. The opening was enlarged and a piece of tissue removed from the edges of the wound for examination. This section was examined by Doctor Warthin, who found it to be chronic granulation tissue or recent scar, no carcinoma being present. The Roentgen rays had evidently caused a degeneration in the tumor-cells in the central portion but had stimulated the cells in the periphery to a more rapid growth than ever before. The wound continued to discharge pus of a very foul odor, requiring a change of dressings at least twice a day to give the patient any comfort at all. The nausea and vomiting continued, the patient being unable to retain any food, and she rapidly lost strength. She went home November 8 and died November 27, 1902, of septicemia and exhaustion.

In this case the Roentgen rays lessened the pain somewhat at first but did not limit the growth of the tumor. A dermatitis was rapidly set up. Some of these cases are not amenable to treatment with the Roentgen rays, and in treating this one we undoubtedly stimulated the tumor cells to more rapid growth. The case was evidently overtreated. Our experience in the two cases of carcinoma which I have reported would indicate it to be a fallacy to attempt to rapidly set up a dermatitis in these cases, but we should treat them more conservatively, that is, expose them for shorter periods of time and at longer intervals and avoid a dermatitis if possible.

The development of even a very slight erythema should be an indication to discontinue the treatment. A tube of very low vacuum should be employed. The spark gap should not be over one-quarter to one-half inch, as *x*-rays from such a soft tube are far less liable to cause dermatitis than from a tube of a higher vacuum by reason of less tendency to penetrate the tissues. Hyde and Montgomery, of Chicago, report a similar experience in the treatment of "Surface carcinomas involving the deeper tissues." In these cases the treatment was pursued until a marked inflammatory reaction was produced. In a few cases this growth almost completely disappeared after the reaction subsided, and then after a few weeks of further rest the growth extended very rapidly to the neighboring tissue, producing a larger tumor than ever. The following words of Professor Hyde are worthy of note: "In each of these cases the second growth of the tumor has been far more rapid than anything we have ever seen in unmolested carcinoma." Sections of tissue removed from the second growth showed it to be a typical carcinoma. It is evident that it is a dangerous procedure to rapidly excite a dermatitis or inflammatory reaction in a malignant growth, as we may cause a more rapid extension of the disease peripherally than was observed in the original tumor. The exposure should be short and at long intervals. The case should be carefully watched for the development of erythema, and upon the slightest evidence of this symptom the treatment should be interrupted until the inflammatory reaction subsides. Again, patients who do not improve after a reasonable number of exposures, that is, twenty or more, should no longer be subjected to irradiation, as some cases are absolutely not amenable to treatment.

Hyde reports twenty-five cases of epithelioma out of a total number of fifty-five in which the patients were cured by means of the Roentgen rays. In these persons there has been no recurrence during periods varying from two to nine months. Johnson and Merrill, of Washington, District of Columbia, report ten patients out of sixteen or sixty-two and a half per cent cured. Skinner finds about eighty per cent of the patients with superficial epithelioma cured by the Roentgen rays, and three out of thirty-three of deep-seated malignant growths have so far been cured by this method. Newcomet, of Philadelphia, has so far cured four persons affected with superficial epithelioma, in this way. Mosely, of Philadelphia, reports two patients with epithelioma of the lip cured, one with epithelioma of the face much improved, one with carcinoma of the inguinal region cured, another similar one which died, one with carcinoma of breast much relieved, another not improved and a third which died, and one with carcinoma of the jaw, which died. Coley reports that in twenty-one cases of cancer of the breast, small recurrent nodules were made to disappear in three patients after a few weeks' exposure to the Roentgen rays, but recurrence took place a short time after treatment was discontinued. There was marked improvement in three out of ten persons with intraabdominal cancer, but no cures were obtainable. In two out of fifteen patients with carcinoma of the head, face and neck, the disease disappeared under the *x*-ray treatment, but recurrence took place soon after treatment was discontinued. The treatment in some of these cases was prolonged to nine months with some intermissions.

Case V.—A papermaker, aged twenty-six years, with a negative family history, was admitted to the hospital September 16, and discharged November 11, 1902. His disease was diagnosed sarcoma of the ileum.

At twelve years of age patient's testis was injured by having a board fall on it, causing atrophy of the organ. He has two children living and well. The third died at the age of three weeks. He had la grippe three years ago, and has had the diseases of childhood and typhoid fever, the latter when about seven years of age. He has had no venereal diseases.

Three years ago while going to work one morning he fell on a slippery walk. He struck on his hip and had a watch in his hip pocket. He experienced no pain at the time, but after five or six months the parts became very sore in a circumscribed area. This condition remained about the same until last May, when a lump appeared and grew continually until to within the last three or four weeks. His physician diagnosed his condition rheumatism. In July last, after riding a wheel, he was unable to leave his bed the next day on account of pain, and the leg has ached ever since. He applied such things as camphor oil and turpentine to it. He had pain of a burning character in the lower right leg. He lost about forty pounds in weight.

Examination of the right hip showed a swelling about five inches in diameter extending from the crest of the ileum downward. The skin over the swelling was roughened as a result of blistering. The tumor felt hard, nodular and infiltrating, especially at the periphery. The tumor extended from the anterior border of the ileum back to the sacro-iliac joint and down nearly to the lowest portion of the bone, involving the entire bone.

An exploratory needle was inserted into the tumor by Doctor Darling but no cavity was found, and only blood escaped from the wound. It was then treated daily with the Roentgen rays at a distance of four inches for six minutes. It measured five and one-half by eight inches October 3, and was smaller and softer in the region exposed to the x-rays, but at the upper border it was hard, nodular, very sensitive to pressure, and apparently growing very rapidly. The new portion of the tumor was also exposed to the Roentgen rays but no change was effected in it. The only benefit the patient received from the treatment was a temporary relief from pain. Instead of being bedridden he was able to walk around in the ward. He finally became discouraged and went home, where a so-called surgeon opened the tumor and the patient died of hemorrhage. This patient was given forty-three exposures to the Roentgen rays. There was no increase in weight during the patient's sojourn in the hospital.

The results obtained in the treatment of sarcoma with the Roentgen rays have not been uniformly satisfactory. Some cures have, however, been reported. One of Coley's patients recently suffered a recurrence in the axilla, groin and behind the colon, and treatment with the x-rays has again been begun. Three cases have been cured in this manner, one by Skinner, of New Haven, one by Pusey, of Chicago, and the third by Fisk, of Brooklyn. Mosely, of Philadelphia, reports one patient with recurrent sarcoma of the temporal region cured, one patient with sarcoma of the pharynx and one of similar disease in the buttock, which died. In some cases the tumor has entirely disappeared, apparently by absorption. In nearly all the cases there has been marked relief from pain during the treatment with the Roentgen rays. Coley reports that in five cases of inoperable sarcoma the tumors entirely disappeared, but there were slight local recurrences in periods varying from three to four months. These recurrences disappeared upon further treatment with the x-rays. In each of these cases the treatment was prolonged for a long time, having been kept up in one case of sarcoma of the femur for eleven months. In nine other cases there has been great improvement but no cure. The remaining thirteen cases either showed no improvement or none worthy of being noted.

CONCLUSIONS.

Every case which is to be treated with the Roentgen rays should be given one exposure for about five minutes at a distance of six or eight inches, and then all further treatment be discontinued for a week or ten days in order to determine whether any idiosyncrasy toward the Roentgen rays exists and to avoid severe burns of the tissues. After that time exposures may be made every second or third day according to the needs of the case. To emphasize the necessity of these precautions reference need only be made to a case reported from the Johns Hopkins Hospital by Doctor Maurice Rubel, wherein death occurred from an extensive x-ray burn of the abdomen produced after two exposures of twenty minutes each, the tube being at a distance of six inches from the abdominal wall and the spark gap three inches. For lupus vulgaris and superficial malignant growths very soft tubes should be used, the spark gap not being over one-quarter to one-half an inch. For deep-seated growths and neoplasms of the internal organs tubes of a slightly higher vacuum may be used with a spark gap of two inches. Sufficient cases have now been reported to show that it is not necessary to excite a dermatitis to effect a cure. Such a reaction is an actual interference with the process of healing and may do great harm to the patient by causing the extension of the malignant growth to the surrounding tissues and the intoxication produced by the absorption of products of the broken-down cells, and the toxins resulting from infection with pyogenic organisms may further increase the general exhaustion and hasten death.

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ORIGINAL ABSTRACTS.

MEDICINE.

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INTESTINAL INDIGESTION (DYSTRYPSIA).

HEMMETER (*Medical News,* Number XVI, 1903) states that enteritis may occur with or without diarrhea. If stool is soft, (1) mucus mixed with feces, (2) bile pigments, and (3) bile-stained epithelia and muscle fibres indicate enteritis. If hard, the colon must be washed, and the washings examined for shreds of mucus to exclude colitis. With colitis, enteritis cannot be definitely proven clinically. In constipation with no colitis, the signs of enteritis are abundant muscle fibres, well recognized starch cells and fat in droplets, fatty acid crystals or soaps.

Diarrhea may be due to absence or abnormality of the stomach juice, and such dyspeptic diarrheas are recognized by test meal analysis and by the presence of unchanged meat, connective tissue, and especially vegetable foods in the feces. Pawlow has shown that hydrochloric acid is the most essential stimulant to pancreatic secretion, and has demonstrated a new ferment, chymaze, which accelerates the action of the pancreatic ferments. Hence, the importance of appetite on gastric secretion applies also to pancreatic secretion. Pawlow has shown that the "psychic" secretion (that is, that produced by the sight or smell of food) of the stomach and the "chemic" secretion (that produced by the chemical composition of food in the stomach) are distinct, and moreover that the action of the psychic on the food produces a greater chemic, and hence a more efficient total secretion. Also that starch paste alone does not increase the gastric efficiency, but starch paste plus meat gives better gastric juice than meat alone. Also the stomach responds with different qualities of secretion to lactic, butyric and hydrochloric acids. All this goes to show that abnormal fermentation in the chyme, due to lessened psychic secretion in the stomach, may cause intestinal indigestion, and be due simply to errors in diet.

Hemmeter mentions that he has discovered a ferment in the saliva which acts on gastric digestion as chymaze does on pancreatic. He calls this ferment "salivary secretion."

Carbohydrate diet may bring about dystrypsia by abnormal acid fermentations, the acids formed causing a hyperperistalsis beginning in the jejunum, and extending on downward. The first stools passed are normal, but the later ones are rich in bile pigment, have slight fecal odor, and are acid in reaction. They have no epithelia and round cells, thus distinguishing them from catarrhal stools. Starch dystrypsia may be diagnosed by the history and by the presence of excess of starch in the stools, shown by Lugol's solution. Meat fibres after weighed diet, especially if nuclei are plainly seen, signify, when present in the stools, insufficiency of the pancreas. Abstention from food, after calomel or castor oil have cleansed the tract, is efficient as treatment. Connective tissue after a meal of raw meat indicates gastric, not intestinal indigestion. Fat or fatty crystals are pathologic, but soaps are not.

Treatment.—(1) Bland diet, governed by study of the stools for undigested foods, so that these may be avoided in future. Diet must be purely experimental for each case. (2) Constipation must be experimented upon therapeutically to see whether due to atony or spasm. (3) Neurasthenia is treated with massage, baths and electricity. In addition, the author recommends special remedies for special symptoms, as anorexia, anemia, putrefactive and fermentative diarrheas, et cetera, but emphasizes the point that these remedies are given only to remove the cause after it has been discovered. PRENTISS B. CLEAVES.

HENOCH'S PURPURA.

THIS somewhat rare disease, first described by Henoch in 1874, is characterized by relapses of gastrointestinal crises, purpuric eruptions of the skin and intestinal mucosa, and hemorrhages from mucous membranes. Macarthur (*Edinburgh Medical Journal,* January, 1903) reports the case of a robust boy of sixteen. History.—June: Pain in umbilicus. July: Purpuric eruption on legs. August 18: Extensive purpura around elbow-joints, left thigh and knee; lips swollen, gums bleed readily; no fever. August 20: Collapse, intense pain about umbilicus, spasm of left rectus, otherwise abdomen soft; vomiting quantities of bile-stained fluid with altered blood; constipation. Five relapses, no joint symptoms. D. M. C.

SURGERY.

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THE MALIGNANCY OF JOINT TUBERCULOSIS

Charles F. Painter (*Boston Medical and Surgical Journal,* January 8, 1903). The writer uses the term malignant in the sense of recurrence or return of the disease in the same place after a period of apparent cure and gives clinical evidence to justify the term. The cause of recurrence in twenty-five per cent of the cases is traumatism and the time from three to thirty years. The scar tissue from repair which remains in a diseased joint may be easily broken by direct violence or a strain thus lowering its resistance, setting free bacilli and permitting them to enter surrounding tissues. The patient is always in danger after an apparent cure, and he should be taught how to avoid those accidents which may cause a return of the disease. Age plays an important part in recovery, fewer cases recovering when the disease occurs in advanced life after the tissues have in a measure lost their resistance.

The modern treatment of tuberculous joints calls for more complete and longer fixation when the disease occurs in childhood. Earlier and more radical operative measures, in adults, when the x-ray and the tuberculin test have made the diagnosis certain, thus cutting short the process or lessening the pernicious effect of prolonged local disease upon the general health.

Relapsing cases should receive energetic treatment. He also advises the open-air treatment, especially in septic cases. C. G. D.

HEPATIC DUCT STONES.

Raymond Custer Turck, M. D., of Chicago (*Annals of Surgery*), after a careful review of the literature, is prepared to state that he finds no case reported of isolated stone in the hepatic duct, and that this condition associated with stone in the common or cystic duct is rare. Mayo, in a report of three hundred twenty-six cases, found but five. Ochsner, in reporting forty-eight cases, does not mention it. Mayo-Robson in three hundred five cases found only four. The author then proceeds to report his own case.

A German woman, aged forty-one years, who presented the usual symptoms of gall-stones, came to operation. The gall-bladder was six inches long and contained two floating stones, one, which blocked the cystic duct, was readily milked into the gall-bladder. Another concretion, which was felt higher up in the gastrohepatic omentum, proved to be a stone in the hepatic duct. The lower end of the stone was about one-half inch above the junction of the hepatic and cystic ducts. It was found impossible to remove it by the milking process, so the duct was incised and a nonfaceted stone, which was one and three-fourths inches long and weighed two hundred fifty grains, was delivered. The wound in the duct was closed and the patient made a good recovery.

In pursuing his anatomic work where hundreds of cadavers were examined only one case of stone in the hepatic duct was found. This was a female subject forty years of age who died of pulmonary tuberculosis. Though there were no signs of inflammatory changes in the liver, gall-bladder or ducts, a single stone was found in the hepatic duct. Some biliary sand was found in the liver substance. The prominent cause is probably an obstructed common duct. They may also stand as a proof that gall-stones may form in the bile passages. While such stones are rare, their possible presence should be remembered and a careful inspection of the parts be made before the gall-bladder is surtured to the abdominal wall. When a stone is found in the hepatic duct, an attempt should be made to force it into the gall-bladder or to crush it. When these measures fail, the common or hepatic duct may be incised and the stone delivered. C. G. D.

GYNECOLOGY.

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DYSMENORRHEA.

Herman and Andrews (*Journal of Obstetrics and Gynecology of the British Empire,* January, 1903) have taken up the natural history of dysmenorrhea in so far as such pain is amenable to cure through dilatation of the cervix. The paper is based upon cases taken from the records of the London Hospital and from the private practice of one of the authors. Only those cases were selected whose after histories were known. In a large majority of the cases, if not in all, medicinal treatment had been tried and had proved unsuccessful.

The writers have been able to find no author who has analyzed his cases of dysmenorrhea to ascertain its frequency, the duration of the cure, or in what respects such cases differ from those wherein the monthly pain is not curable by dilatation. In 1881 one of the writers published a paper in the "Transactions of the Obstetrical Society of London," showing that in women with anteflexion no greater proportion menstruate with pain than among those whose uteri are straight.

Sir J. Williams, in eight hundred seventy-three cases, found only eleven of acquired menstrual pain. The experience of the writers is different. Of sixty-seven cases cured by dilatation, in about one-third the pain came on after the onset of the menstruation. It was also found that dysmenorrhea may be acquired at almost any time during the first half of intermenstrual life and that the result of treatment is not materially affected by the length of time the dysmenorrhea has lasted, the age of the patient when treated, or the duration of the married life.

The pain felt with menstruation may be of two kinds—one a general aching due to the congestion of the pelvic organs. This kind of pain precedes menstruation and is relieved by bleeding from the uterus. Sharp spasms of uterine colic characterize the second variety of menstrual pain. It is of importance to remember that the first variety is not affected by dilatation of the cervix, while this operation often affects a cure in the second variety. Clinically the two forms of dysmenorrhea can be distinguished by the fact that the pain due to congestion precedes menstruation, often by several days, while the spasmodic variety begins with the flow or a short time after its appearance.

The authors show that in their cases cured by dilatation, the pain was of the paroxysmal kind in four-fifths while amongst those not cured by dilatation it was constant in three-fourths. It was observed also that patients, the subjects of spasmodic dysmenorrhea, roll around in their pain, while the pain of pelvic congestion is relieved by quiet recumbency.

In most cases of dysmenorrhea there is no sign of organic disease of the uterus. The cervical canal of a young multiparous woman has never been seen narrow enough to hinder mechanically the passage of the few ounces of blood that are lost at each menstrual period. But the cervix, if not narrow enough to hinder the outflow of blood, may yet be small and rigid and not dilate as it should during pregnancy and may thus produce painful spasms.

OBSTETRICS.

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PUERPERAL ECLAMPSIA.

Partridge (*American Journal of Obstetrics,* Volume XLVII, Number III), after discussing various theories as to the cause of eclampsia, concludes that the condition is due to an accumulation of bye-products of metabolism, the result of failure of the liver, spleen and emunctories to do their work properly. Toxins elaborated in greater amount than normal, by irritation cause inefficiency of the liver and spleen, and throw upon the skin, kidneys, et cetera, more work than they can perform. The toxins comprise carbonic acid, ammonia, urea and acetone.

In discussing treatment, the essayist speaks of the use of chloroform and other sedatives, notably opium, chloral, and bromid of sodium to control the symptoms. Rational treatment must aim at the cause. Pilocarpin is dangerous and may cause edema of the lungs. Active catharsis and diuresis are to be attained. The salines, or croton oil (one or two drops) and digitalis are recommended to this end. Sweating may be induced by hot packs, or the hot-air baths. Great stress is rightly laid upon the use of a hot normal salt solution (one drachm of common salt to a quart of water). This may be given by a high enema, to be retained, or better by injection into the cellular tissue or into a vein. The writer states that the solution should be heated to 100°. (I have had better success with a solution registering 115° or 120°). The salt should be given as long as it is absorbed. As high as sixty ounces can be injected into the cellular tissue. Active diuresis and sweating follow, and the tissues are thoroughly cleansed. Such transfusion can be given as often as every three hours. Any region of the body which contains a fair amount of cellular tissue may be utilized as the site of injection.

Partridge considers the prompt emptying of the uterus the best treatment, and describes at length his method of inducing labor. This procedure should certainly be followed when eclampsia manifests itself, as it usually does, during the last month of gestation.

Partridge reports nineteen cases out of six hundred ninety-four pregnancies. Of these, nine were primiparæ and ten multiparæ. Of the nineteen mothers, five or 26.3 per cent died. Of seventeen living children, two or 11.7 per cent died.

As to the time of onset of the convulsions, thirteen or 68.4 per cent were antepartum, four or 21 per cent were interpartum, and two or 10.5 per cent were postpartum. The mortality was as follows: Antepartum, four deaths or 80 per cent; postpartum, one death or 20 per cent. In eleven cases or 57.8 per cent, convulsions ceased with delivery. In three cases they increased after delivery. In five fatal cases the number of convulsions averaged 9.4; in fourteen patients who recovered, the average number was 7.9. In every case albumin was present in the urine, and every patient also showed edema. The urea was not estimated.

PEDIATRICS.

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CROUPOUS PNEUMONIA IN INFANTS.

COUTTS (*Edinburgh Medical Journal*, September, 1902) says that the symptoms and pathology of croupous pneumonia in infants are mainly the same as those in adults, any modifications being those due to the younger age of patients, but it will be noticed that the apices of the lungs are more often attacked in children, and if the physical signs are ill-developed this predilection of croupous pneumonia in infants to attack the apices may afford valuable diagnostic aid in discriminating between the two forms of the disease, as it is rare for the signs of bronchopneumonia to be limited to or even predominate at one apex. There is nothing in the nature of a specific for croupous pneumonia either in shortening or modifying its course. All that is required is rest in bed in a well-ventilated room, along with careful nursing and diet. Great care should be given the latter, and the author says alcoholic stimulation is seldom required in lobar pneumonia, and if so, it is more frequently after the crisis. The author says the principal points in the active treatment of croupous pneumonia in children are comprised in the efforts to control the temperature, when excessive, to alleviate the pain and procure sleep, and to relieve the strain upon the right heart, and adds that the temperature should be controlled by hydrotherapy properly applied. For the pain a single dose of opium may be considered, but hot fomentations or mustard and linseed poultices may do all that is necessary. Cardiac failure, which is most to be dreaded, must be combated, and strychnin and alcohol are the only drugs upon which firm reliance can be placed.

THE TREATMENT OF MUGUET IN THE NEWLY-BORN.

MAYOUD (*Revue Medicale,* May 14, 1902). During an epidemic of muguet which occurred among the newly-born in the Creche of la Charitie during the month of February, 1902, the mouth was swabbed with nitrate of silver. In twenty or more cases of muguet treated by this method we obtained satisfactory results, and it appears to us that silver nitrate acts more surely and more rapidly than the borates. A solution of one to one hundred was first tried and then three to one hundred, the latter proving more effectual. A cotton swab is improvised, and after dipping this into the solution the child is permitted to suck it, this method sufficing in mild cases. In cases of thick plagues direct application is made with the swab. Neutralization of the silver nitrate with salt solution is not necessary. In order to avoid vomiting as a result of the application, it should be made in the interval of feeding. The application may be repeated every twenty-four hours if necessary, but very often once suffices. The treatment was used in twenty-three cases of muguet in breast-fed infants. In sixteen cases a single application effected a cure; in six cases two cauterizations were required, and in three cases a third application was necessary. The writer thinks that the use of solution of nitrate of silver, one to thirty, is destined to replace the borates which are so frequently without effect.

TUBERCULOUS CERVICAL ADENITIS.

MITCHELL (*Johns Hopkins Hospital Bulletin,* July, 1902), in a comprehensive paper upon "Tubercular Cervical Adenitis," its etiology, pathology, symptoms, treatment, et cetera, draws the following conclusions:

(1) Tuberculous cervical adenitis is primarily a local disease of very frequent occurrence, more often in young persons; in itself not extremely serious, and rarely, if ever, proving fatal.

(2) It bears a certain definite relation to tuberculosis of the lungs, and serves as a starting point from which tuberculosis may spread.

(3) The tuberculin test as an aid to diagnosis is positive and harmless.

(4) While recovery may often take place under good hygienic conditions, surgical interference is clearly demanded in most cases.

(5) When surgical treatment is resorted to, the operation should be radical in all cases.

(6) Recovery may be predicted in seventy to eighty per cent of cases so treated. Tuberculosis of the lungs after complete removal of the glands is comparatively rare.

(7) Tuberculosis of the lungs, unless far advanced, is not a contraindication to operation, the removal of the glands apparently exerting a beneficial influence on the condition of the lungs.

INFANT MORTALITY.

THE statistics compiled by the Registrar General of Great Britain for 1900, gives 927,062 children born during the year, of which 142,912, or about fifteen per cent, died before reaching one year of age. The three most frequent causes of death were diarrhea, bronchitis and pneumonia. Rhodes, in revising the statistics (*British Medical Journal,* August 16, 1902), calls attention to the fact that although improved methods of sanitation have reduced the general mortality from twenty-two to eighteen per cent, the mortality of infants is as high today as it was fifty years ago.

OPHTHALMOLOGY.

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CONTRIBUTION TO THE STUDY OF THE DIFFERENTIAL DIAGNOSIS BETWEEN GLIOMA AND PSEUDO-GLIOMA RETINÆ.

JULIUS FEJER (*Archiv. f. Augenheilk,* November, 1902) reports an important case illustrating the difficulty in certain cases in making the diagnosis between glioma and pseudoglioma. In a backward, rhachitic child of four years, examination of the apparently blind left eye showed a yellowish reflex through the pupil, detachment of the retina, with atrophic patches in places surrounded with pigment scattered over its surface. The eye was free from inflammation, and the tension normal. In the right eye the entire fundus was covered with various-sized atrophic areas, involving the choroid and retina. The media on both sides were clear. Three weeks later photophobia and lacrimation began, the pupil was dilated and the tension was found to be increased to 1. Enucleation was advised, as an intraocular growth was suspected. This was refused and the patient taken to Fuchs, in Vienna, who considered "the yellowish white spots in both eyes to be the beginning of a glioma, especially as increased tension has appeared on the left side." The diagnostician not being absolutely sure, he advised waiting, and roborant treatment. After several weeks the eye became softer, the ciliary injection disappeared, the child grew stronger, and six months later Fuchs thought there was no longer any danger from tumor. After an observant period of one and one-half years the tension was normal, the tumor was atrophic and smaller, and the other patches on the fundus had become paler. The condition of the fellow eye remained the same, except that the yellowish spots had paled perceptibly.

The fact that glioma may begin in the form of white plaques, scattered through the retina, makes the interpretation of such cases difficult. Here, however, the facts that the spots were not elevated, that they were surrounded with a pigment border, which is absent in beginning glioma, that they were diffusely scattered over the fundus instead of being in groups, and that the retinal vessels passed in an uncurved line over their surface, made the differentiating points. The fact that in the course of one and one-half years they had not grown but had become paler and whiter, made the diagnosis a certain one. Schick reported a similar case in 1900, in which masses of exudate, which he considered fibrinous in character, formed between the choroid and retina, and did not change in the course of one and three-quarters years.

LARYNGOLOGY.

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THE PROPHYLAXIS OF SINUS DISEASES.

D. BRYSON DELAVAN (*Journal of the American Medical Association*, February 21, 1903) gives, as some of the predisposing causes of sinus diseases: Malformation of the nasal cavities, deviation of the nasal septum, enlargement of the middle turbinal, congestion and hypertrophies of the soft parts. Any of the acute infectious diseases may act as an exciting cause. Influenza is the most common. Dental disease, and the irritation caused by dust are mentioned.

Prophylaxis: The care of simple "colds in the head," and the correction of nasal deformities.

Active treatment: Keep the patient quiet and at an even temperature and treat the exciting cause.

Local treatment: All local treatment applied in these cases must be absolutely unirritating. The nasal cavities should be carefully sprayed with a mild cleansing solution, following which the swollen tissues should be contracted by applications of a mild solution of cocain, not stronger than four per cent, and the approaches to the sinus outlets opened as widely as possible by the action of this drug. The secretions should be removed as far as is possible from the regions before occluded, by means of the cleansing spray; a spray of adrenalin should be applied for the purpose of increasing the power and adding to the duration of the effect of the cocain; and, finally, the parts should be protected by a light spray of liquid abolin.

If these applications are made with sufficient gentleness and care, the result will be immediate relief to the patient's distress with much ultimate benefit to the inflamed cells. Applied early in the history of the case, an attack which has indications of being severe has been arrested by a single treatment. Several treatments, however, are generally necessary, many may be required, and sometimes it is only after a long course of patient effort that success is attained. When the treatment must be continued the danger of the repeated use of cocain must be recognized and adrenalin substituted. Indeed, in many cases it is better to depend on the latter drug alone. During the height of the attack a recurrrence of the nasal swelling may necessitate the repetition of the treatment several times a day.

The prevention of invasion of the sinuses in the acute infectious diseases already alluded to, is a matter not always within the limits of present knowledge. Thus, in diphtheria, measles and scarlet fever, attended as they are with violent local congestion of the nasal cavities, it is difficult to think of any safe means of treatment. In typhoid fever, smallpox and pneumonia, however, careful systematic cleansing of the nasal passages is most valuable for many reasons, and it is clearly indicated not only for the prevention of otitis, but also for that of analogous inflammations of the accessory sinuses.

To briefly summarize the matter, in the prophylaxis of sinus diseases much good may be accomplished:

(1) By recognizing the conditions under which inflammation of the sinuses is likely to occur and, if possible, removing them.

(2) When removal of the predisposing conditions is not practicable, by guarding the patient against the various exciting causes which may determine an acute attack.

(3) When acute inflammation is already threatened, by applying immediate treatment for its relief.

THE EARLY APPEARANCE, DIAGNOSIS AND TREATMENT OF TUBERCULOSIS OF THE UPPER AIR TRACT.

WALTER F. CHAPPELL (*Journal of the American Medical Association*, February 21, 1903) divides laryngeal tuberculosis into three stages:

(1) The premonitory or pretubercular stage.

(2) The stage of infiltration or thickening.

(3) The stage of ulceration.

The first stage is difficult to recognize, although one may suspect it when a patient has an intractable laryngeal catarrh. Later an edematous, or semisolid, appearance of the mucous membrane is usually a precursor of tubercular ulceration, especially when it occurs over the arytenoid cartilages, aryepiglottic folds and epiglottis, and at times the swelling is so great as to seriously interfere with respiration and deglutition. Small points of ulceration soon follow, and after coalescing give the so-called characteristic worm-eaten appearance. Pain is an important diagnostic symptom during the ulcerative stage, which is in marked contrast to syphilis which may present marked ulceration without pain. The author takes up briefly pharyngeal, tracheal, lingual and nasal tuberculosis. He divides treatment into medicinal, surgical, and climatic. During the quiescent stage, when marked thickening in the larynx exists, submucous injections of lactic acid or creosote may be used. During the ulcerative stage no applications ought to be used that will irritate. Pain may be controlled by inhalation of menthol and iodoform, later, of cocain and orthoform. Surgical measures, such as cureting, are reserved for selected cases, and should be employed only by experienced operators. A suitable climate is urged for these cases.

TUMOR OF THE PHARYNX: AN ACCESSORY THYROID GLAND. REMOVAL FOLLOWING BY MYXEDEMA.

E. L. Shurly, Detroit, Michigan (*Philadelphia Medical Journal*, September 13, 1902). The case reported was a girl aged sixteen, who complained of difficulty in deglutition, constant desire to swallow and some dyspepsia. The family history was good. Examination revealed a globular, smooth, dark-red, broadly pedunculated tumor, about the size of a small hen's egg, firmly attached to the base of the tongue, close to the epiglottis and a little to the right of the median line. No atrophy of the thyroid gland could be discovered. The tumor was removed with a heavy, cold wire snare, while the patient was under chloroform. The hemorrhage was very free and was controlled, after two hours' constant attention, by gauze compresses wrung out of ice water and saturated with adrenalin solution. Myxedema developed three weeks after removal, accompanied by the usual symptoms. Prominent in this case were the swelling of the skin about the eyelids, mental dullness and physical debility. Rapid improvement followed the use of the thyroid gland in two to five grain doses three times daily. Microscopic examination of the tumor proved it to be thyroid in nature.

DERMATOLOGY.

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SYPHILIS AND SMALLPOX MISTAKEN FOR EACH OTHER.

Schamberg (*Journal of the American Medical Association*, November, 1902) gives the details of four cases of acute secondary syphilis sent by physicians to the Municipal Hospital, Philadelphia, with the diagnosis of smallpox, which came under his notice at that institution.

In the discussion following this report Gottheil referred to the fact that during an epidemic in New York some years ago a number of smallpox patients were sent to the venereal wards of the Charity Hospital incorrectly diagnosed as pustular syphilis.

Corlett, Allen, and Stellwagon cited instances of temporary difficulty in such differentiation, the occasional presence of fever and general aching and pain in a varioloform syphiloderm, and the relative absence of such symptoms in some cases of smallpox being the chief sources of the confusion.

Without repeating the differential symptoms in the evolutionary stages of typical cases of each disease, it is important to remember that *a single examination* in the early stage of either disease may not be sufficient for even experts to determine the diagnosis. (The same statement applies to most of the exanthemata, as measles, rötheln, and to impetigo, varicella, et cetera). Such errors emphasize the need for time to develop essential phenomena of infectious and incubative diseases, and the provision in communities for hospitals for contagious diseases, with detention wards where suspected cases may be isolated without additional risk to themselves or endangering the public health while diagnosis is being determined.

THERAPEUTICS.

By DELOS LEONARD PARKER, Ph. B., M. D., Detroit, Michigan.
LECTURER ON MATERIA MEDICA IN THE DETROIT COLLEGE OF MEDICINE.

THE THERAPEUTIC STATUS OF THE COAL-TAR PRODUCTIONS IN GENERAL NERVOUS AFFECTIONS.

Doctor F. Savary Pearce (*The Therapeutic Gazette*, January, 1903) discusses the question of the use of coal-tar products in nervous affections and presents views on this subject well worthy of consideration.

In a general way it may be said that the author of this article looks upon the drugs referred to much as the average person looks upon fire—valuable when used under proper control, but often quite the reverse when used carelessly.

Doctor Pearce refers to several forms of nervous affection in the treatment of which special care should be exercised in order to avoid the danger of injury being done by the drugs referred to.

The first of these is neurasthenia. In this condition headache is almost always present, and should be treated, if possible, not by unhesitating recourse to the coal-tar products, but rather by the removal of the cause which underlies the condition. Such procedure would of course lead to a form of treatment differing greatly in different cases. Abuse of the coal-tar drugs in the disease just mentioned may add to the miseries of the patient, already usually quite sufficient, by disturbing metabolism, disorganizing the blood and depressing the important centers of the medulla.

Hysteria is another condition in the treatment of which Doctor Pearce thinks the physician should be on his guard in order to avoid not so much the intelligent use, as the unintentional abuse of the coal-tar derivatives.

Tabes dorsalis is an affection in which pain may be controlled to a great extent by the drugs under consideration. In fact Doctor Pearce thinks that organic nervous diseases affecting the spinal cord offer one of the best fields for the use of this class of drugs, for the reason that the brain centers being unimpaired are less likely to be affected than they would be if such were not the case.

A prescription he gives for use in controlling pain in tabes dorsalis is acetanilid five grains, phenacetin five grains, caffein citrate two or three grains, given every two or three hours from the beginning of a paroxysm of pain.

Of the drugs themselves Doctor Pearce says that antipyrin is the most depressing of all; that acetanilid comes next in order as to depression on the nerve centers; and that phenacetin is the drug par excellence which will do yeoman service when indications arise.

Doctor Pearce claims that he has evidence to show that the sales of acetanilid have increased in the past five years. He also says he believes all will agree with him that the coal-tar derivatives are still employed beyond proper measure.

PSYCHIATRY.

By WILLIAM MILAN EDWARDS, M. D., KALAMAZOO, MICHIGAN.
MEDICAL SUPERINTENDENT OF THE MICHIGAN ASYLUM FOR THE INSANE.

HYDRIATIC PROCEDURES IN THE TREATMENT OF INSANITY.

EMMET C. DENT, Superintendent of the Manhattan State Hospital, West, Ward's Island, New York City (*American Journal of Insanity*, July, 1902), reviews the use of water as a therapeutic agent in the treatment of insanity, and writes of the present status of hydrotherapy as an adjunct in such treatment. Water is administered in the form of warm and cold full baths, warm and cold packs, sitz baths, ice packs, Scotch douches, needle baths and drip sheet baths in conjunction with the hot-air cabinet. He insists upon a careful technique and that the physiologic and pathologic conditions present must be recognized as well as the individuality of each patient in order to obtain the best results. In cases with insomnia, great agitation with active or painful hallucinations and delusions, he has obtained most excellent results with hydriatic measures. In the treatment of some of these cases the patient is put to bed, given a large simple enema at the temperature of 100° Fahrenheit, and the stomach irrigated with sterilized water at the temperature of 107° Fahrenheit. The patient is then put in a warm wet pack, sheets being saturated in water at 112° Fahrenheit, and covered snugly with several woolen blankets with ice cap at the head and hot water bottle at the feet. This is a typical form of application to be varied by the individual needs of the patient. The results are gradual diminution of the excitement often succeeded by complete quiet, sleep and general improvement. The patient may be left in the wet pack for several hours depending upon its effect. When removed from the pack an alcohol rub is given, followed by light massage. If the patient again shows much motor restlessness and agitation this procedure is repeated. The patients usually at the end of a week of this treatment show marked improvement, sleep is quiet and restful, active mental symptoms subside and the appetite improves. At the end of a week the form of hydriatic treatment may be changed according to the condition of the patient. Scotch douches at a temperature of 100° to 59° Fahrenheit with pressure of twenty-five pounds and one or two treatments daily may be substituted.

These hydriatic treatments can be conducted in private homes, in cases wherein drug therapy is not practicable or its results inadequate, much to the satisfaction of the physician and friends of patients. The wet sheet pack can be readily administered in almost any household. The doctor does not claim or pretend to offer any new observations in the application of water as a therapeutic agent. He finds that when properly applied in the form of packs, or hot and warm full baths it acts as a hypnotic and sedative and has a great value when it is imprudent to administer drugs. As an eliminative it is of exceptional value. He finds that after a few baths have been administered there is invariably an increase in the quantity of urine and a marked increase in its solid constitutents; that the large quantities of water the patient drinks during the period spent in the packs and the hot full baths promote free diuresis and assist in diaphoresis; that the application of water for its tonic effect in the form of sprays, douches, et cetera, under hydrostatic pressure. induces glandular activity by its tonic effect on the general cutaneous circulation. He knows of no condition except advanced pregnancy, pleurisy or when the patient is practically moribund, in which some form of hydrotherapy cannot safely be administered. He recognizes the risk of exhaustion in warm packs and in warm and hot full baths but says that those who are skilled in the application of these baths can easily detect the danger signals and remove the patient before any serious consequences have resulted. He has yet to meet with any serious or fatal result, although in the hospital of which he has charge thousands of packs and baths have been given. It is his custom to have the baths administered between the hours of 10:30 A. M. and midday and between 3:30 and 5:30 P. M. since the stomach is comparatively free from food at these times. In the acute agitated conditions accompanied by insomnia the baths are given at such times as the state of the patient seems to require. He urges that more attention and consideration be accorded the therapeutic use of water in care of the insane and especially in hospitals for their treatment.

PATHOLOGY.

By ALDRED SCOTT WARTHIN, Ph. D., M. D., Ann Arbor, Michigan.
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EXPERIMENTAL FAT-NECROSIS.

Wells (*Journal of Medical Research,* February, 1903). The present teachings in regard to the cause of fat-necrosis are based largely upon Flexner's work, and may be summed up as follows: (1) An injury to the pancreas by infection, trauma, occlusion of ducts (Opie), et cetera. (2) Escape of more or less normal pancreatic juice into the tissue or into the lymph stream. (3) Dissemination of the fluid, in a manner not always easy to explain. (4) Action of the lipase upon the fat cells, leading to the splitting of their contained fat into glycerin and fatty acids. (5) Diffusion of the glycerin, the solid fatty acids being left behind. (6) Necrosis of the cells. (7) Combination of fatty acids with calcium salts, precipitation and encapsulation by connective tissue.

This theory has been widely accepted as explaining the essential features of fat-necrosis; and though simple and clear-cut is nevertheless far from proved. Moreover, the recent work of Kastle and Loevenhart concerning fat metabolism throws doubt upon the part played by lipase in the process. Contrary to Flexner's observation these observers have demonstrated the presence of lipase (steapsin) in all the body tissues. If this is the case, how is it possible for the lipase of the pancreatic juice to produce the changes of fat-necrosis? Further, since the splitting of fat occurs constantly and normally in the fat cells, is it possible that the products of this decomposition or the lipase itself can cause the death of the fat cells? If the action of lipase is to cause a balance between the fats and their acids and alcohol, the presence of added lipase in the tissues would have little effect, and lead only to an increased accumulation of fat. Moreover, since ferments are not diffusible it is difficult to explain the wide distribution of the lesions, often seen in fat-necrosis. All these questions and facts leave much doubt as to the genesis of of fat-necrosis through the action of lipase. The questions to be answered are: Is a ferment responsible for fat-necrosis; if a ferment, is it lipase or one of the other ferments of the pancreatic juice or of the tissues? If lipase, is it the lipase of the pancreatic juice or of the fat tissue itself that is acting? Is the necrosis of the fat cells primary and the splitting of the fat secondary, or, as commonly accepted, is the splitting of the fat the first step and the necrosis a result of the lipolysis? Finally, how is the peculiar dissemination of fat-necrosis brought about, and why is the process focal?

With a view toward answering these questions Wells carried out an elaborate series of experiments. The results of these may be summed up as follows: Fat-necrosis is merely a special form of necrosis of fat tissue, differing from simple necrosis chiefly in its focal character, and the filling of the necrosed cells by the products of fat-splitting. The complete picture of fat-necrosis has never yet been produced except by products of the pancreas. Fat-necrosis may be produced by injections of extracts of fresh pancreas, and also by commercial pancreatin. Heating to 71° centigrade destroys the power of pancreatin to produce fat-necrosis, thus pointing to enzyme action as the source of the condition. It was impossible to ascertain which of the pancreatic enzymes causes fat-necrosis. Trypsin without lipase will not cause it. As it is impossible to separate pancreatic lipase it cannot be ascertained whether it alone is capable of causing the condition. It is probable that the pancreatic lipase causes fat-splitting after some other ingredient of the pancreatic juice has injured the cell. The lipase contained within necrotic fat-tissue will not produce the changes of fat-necrosis. The earliest change in fat-necrosis is a simple necrosis of the surface tissue, which gradually extends into the deeper fat cells. Fat-splitting is subsequent to the necrosis and not its cause. The products are at first noncrystalline, but become so later. Dissemination occurs by the lymphatic system. The forms of the foci depend simply upon the area exposed to the action of the pancreatin. Fat-necrosis by itself is not dangerous, and may develop while the animal shows no observable symptoms.

EDITORIAL COMMENT.

NEW MEDICAL LEGISLATION.

THE present session of the legislature of Michigan gives a fair promise of new medical legislation. The Chandler Act has been a long step from the almost lawless restriction of medical practice that prevailed before. Not only fake doctors but also fake diplomas have been driven to new hiding places. We have quacks with us yet, but an education of progress is going on among the people and is bearing fruit. Christian science and osteopathy both flourish also and their limitations must be made known.

Aside from these there are, however, some desirable and obtainable modifications to our existing laws. These refer to the educational qualifications of licentiates and the authority of the board in their standardizing and regulation. It is furthest from the mind of anyone to create a monopoly in the interest of the profession, but the moment a class of men propose to raise their standard it seems to be overlooked that it is really and only in the interest of the whole people.

Take the barbers' act for instance. Some are prone to criticise it as emanating from a selfish spirit on the part of those already engaged in that business. There may be an element of pride in their attempt tc raise themselves as a class but this is most laudable. A moment's reflection will immediately make apparent the true object and effect of that law. The people are protected and to an extent insured against ignorant and careless workmen. The laws pertaining to the practice of dentistry also protect us from unnecessary sacrifice of our teeth and other oral structures. The same argument applies with manifold more force to the practice of medicine. This profession more than any other should be subjected to police surveillance and made to conform in a reasonable degree to the possibilities of modern medicine.

Under the existing regulations graduates of the several medical colleges of Michigan are admitted to practice without further examination—a plan which obviously takes the authority for a standard from the board and invests it in the college faculty. It is proposed to put all applicants for license to practice on the same level; that is, to require all to pass satisfactorily an examination under the direction of the board independently of their graduation. This plan certainly demands some concession, but it is manifestly just to all and unjust to none.

The renewed legislation also contemplates a more rigid management of the qualifications of students in respect to their preliminary education. Students today are as a class far superior in education to those of preceding years, but the basis of equivalences in preliminary knowledge and discipline has not yet been thoroughly instituted or at least put in working order. The examination by the board or under its direction of all applicants for admission to colleges of medicine would settle this matter once for all. It is to be hoped that these modifications at least may be secured.

ACCIDENTS DUE TO *X*-RADIANCE.

CURRENT medical literature recounts a number of casualties which have recently occurred in the domain of *x*-ray therapeusis. The lesion resulting from this agency is peculiar in that sensation is not simultaneous with exposure, that indications of cell metamorphosis may be deferred several hours or even weeks, that recourse to stimulating treatment is unavailing, and that the period elapsing between the date of exposure and the degree of reaction is devoid of ratio. The physiologic phenomena involved in the nutritive change is not yet satisfactorily explained.

The scope of these accidents is not confined to burns of the first, second or third degree, as ordinarily understood, but includes a fourth burn which is peculiar to skiagraphers and manifests itself in the form of minute papules on the hands after repeated brief exposures. The number of these elevations is limited in the beginning, but shortly the entire hand assumes a crimson hue and becomes roughened, the normal markings suffering obliteration. Eventually the skin is markedly thickened, the condition being particularly emphasized in the knuckle folds, while the longitudinal striations of the finger nails are more conspicuous. This variety of burn has been experienced by Groover, who testifies to its extreme chronicity, skillful endeavor having failed to effect tissue resolution.

Alopecia in a child three years old, who had been treated for tinea tonsurans of the microsporon variety, is recorded in the practice of Whitfield. Two patches of the disease had existed for many months, one of which was subjected to fourteen exposures as an experimental measure. The ringworm disappeared, but the site of its occupancy sustained depilation of every healthy and diseased hair within a week after cessation of treatment. Before a month had elapsed, and while the other patch was being treated, return of hair was noticeable in the bald spot. The second patch had received ten exposures at this time, and although no loss of hair resulted, slight redness of the scalp indicated early shedding unless the seances were modified. The fact that instances of permanent baldness are reported forcibly illustrates the necessity of experience before electing this measure generally.

The premature demise of an English physician from malignant disease is alleged to be traceable to an *x*-ray accident. Blacker suffered a severe burn on one of his fingers while manipulating the apparatus. This irritation produced an unyielding dermatitis which rapidly ascended the arm. Cancerous disease of the skin now appeared at the elbow, and evidences of malignancy were soon perceptible in the axilla, the disease finally involving the entire shoulder, the progressive character of which precluded operation.

Grubbé, who has treated several hundred patients for cancer and other malignant growths, recommends that the burning stage of the area exposed for treatment be retarded by the application of vaseline, and that surrounding tissue be protected from the caloric rays by a lead foil shield. This operator states that the vacuum of an ordinary *x*-ray tube is unreliable because of constant changing, and that only tubes whose vacuum allows of perfect control should be employed. The precaution of adjusting tube and shield before the current is turned on is emphasized by Brown, who advises that when the fluoroscope is used the palm be directed toward the tube and the operator stand at a distance of several feet. A special glove lined with tin foil is worn by Beck.

George details some experience with radiotherapy in another department of this journal. Several cases are mentioned by this writer in which *x*-ray dermatitis was a factor, and reference is likewise made to a case in the practice of Rubel, wherein death occurred from the effects of an extensive burn of the abdomen. The appearance of a dermatitis is claimed by the author to be not only "an actual interference with the process of healing," but is also liable to render early death a certainty by extension of malignant growth and absorption of toxic products.

These few instances, even, should serve as admonitions to exercise the utmost caution when utilizing the *x*-ray machine as a therapeutic agent.

CONTEMPORARY.

PREVENT INFECTION.

[CLEVELAND MEDICAL JOURNAL.]

QUESTIONS relating to the place of entrance of bacteria into the body are important with reference to prophylaxis. The fact that the tonsil is a portal easily guarded makes the subject of tonsilar and consequent general infection an especially practical one. It has attracted much recent attention. Menzer believes that pneumonia, measles and scarlet-fever are acquired by way of the tonsil. Packard shows that endocarditis, and Baumgarten that tuberculosis may be tonsilar in origin. Diphtheria, erysipelas and acute rheumatism are without doubt to be included in the list, and Forchheimer, in a recent paper, describes two cases of appendicits and five of catarrhal jaundice in which a preceding streptococcus, staphylococcus or mixed infection of the tonsil made it evident that that was the place of entrance.

The observation that bacteria, often pathogenic bacteria, live for weeks or months in the mouth and throat is an old one. Every epidemic of diphtheria with symptoms is evidence of a wider epidemic of infection with the diphtheria germ without symptoms. In other words in every epidemic some of those infected are sick, others show no symptoms, but carry and may spread the disease. The pneumococcus is sometimes carried in the mouth for months, and to the man who harbors it the death-sentence is impending; its execution may be merely a matter of wet feet.

The inference is obvious, old, but neglected. Sore-throat, diphtheria and consumption, to a lesser degree rheumatism and jaundice, make the rounds of a family. To recommend an efficient antiseptic mouth-wash and gargle, for use by every member of the household, is the physician's first duty when called in a case of any infection of the mouth, throat, nose or lung.

The inefficacy of antiseptics in many contagious diseases has no bearing on their use in prevention. To take a single example, the germ of diphtheria, even when localized in plain view and within easy reach, is, in the developed disease, entrenched in living tissue. Noncorrosive antiseptics have no chance. On the other hand germs loose in the throat can escape no more easily than if they were in a test-tube.

Another point should be emphasized. Throat cleanliness, though desirable and more important to health than removal of dust from the skin, may be difficult to bring into general favor. The physician is often, however, called on to advise in regard to the care of children and sometimes of older people who are fragile and the cause of anxiety. Many such lives might be spared by the use of simple means at our command.

MEDICAL NEWS.

THE PASSING OF AN EMINENT GYNECOLOGIST.

Doctor Theodore Gaillard Thomas, of New York City, died at Thomasville, Georgia, on the 28th instant, the cause of his demise, which was sudden, being cardiac disease. The doctor was a native of South Carolina, having been born on Edisto Island, near Charleston, November 21, 1831. His father was a clerygman, and a lineal descendant of Reverend Samuel Thomas, who was sent to South Carolina by the

Church of England in 1700. His mother was Jane Marshall Gaillard, who could trace her ancestry to Theodore Gaillard, a Huguenot refugee, who appeared in South Carolina on the revocation of the Edict of Nantes. Deceased graduated from the Medical College of Charleston in 1852, subsequently pursuing clinical study abroad, and afterward (1855) locating in New York City, where he rendered service as resident physician in the Bellevue and Ward's Island hospitals, and finally became associated in practice with the late Doctor John T. Metcalfe. Eventually he received the appointment of professor of obstetrics and diseases of women and children in the College of Physicians and Surgeons, soon thereafter becoming a noted teacher and consultant. Gradually he relinquished the chair of obstetrics but retained that of diseases of women. As an operator his brilliant work while attending surgeon to the Women's Hospital brought him international repute. He not only achieved a reputation as teacher, operator, and consultant, but was likewise a writer and speaker of acknowledged ability. Manuscripts contributed to societies and journals bore the fruits of his experience and ingenuity, but the work that became a classic was that on "Diseases of Women," which was probably the most popular book on gynecology ever published in the world, having been translated into a dozen languages, including the Chinese. "Abortion and its Treatment, from the Standpoint of Practical Experience," being a series of six lectures delivered in his collegiate capacity, also gained a wide circulation. The presidencies of the New York Obstetrical Society and the American Gynecological Society were among the positions to which he had been elevated. He enjoyed an extensive hospital connection, and at the time of his demise was emeritus professor in the College of Physicians and Surgeons, the medical department of Columbia University. As a physician, he was regarded the most eminent and thoroughly representative member of the profession in New York.

MINOR INTELLIGENCE.

DOCTORS FRANK B. and H. O. WALKER have removed their offices from 27 Adams avenue, east, to 612 Washington Arcade, 257 Woodward avenue, Detroit.

DOCTOR AND MRS. CHRISTIAN A. HERTER, of New York City, have given $25,000 to the Johns Hopkins University for the establishment of a lectureship in medicine.

RABIES is said to have become extinct in England and Australia, owing to the strict precautions which have recently been exercised. Animals landed in these countries are quarantined under the attention of experts for several days.

THE will of A. C. Hutchinson, of New Orleans, who died several months ago, bequeaths the major part of an estate valued at about $900,000, to Tulane University. A brother of the deceased recently instituted proceedings to annul the will.

EIGHT pavilions of steel and glass will be constructed in connection with the Philadelphia Hospital and dedicated to the treatment of consumptives. The estimated cost of the buildings is $125,000.

THE board of health of the state of Maine has memorialized the senate of that commonwealth for the appropriation of $10,000 for the construction of an Emergency hospital for contagious diseases.

DOCTORS H. L. NIEBERT and L. Rassieur presented a patient at a recent meeting of the Saint Louis Medical Society of City Hospital Alumni, who had recovered from a gunshot wound of the heart.

MUNICH physicians discontinued the practice of reporting sickness to the health office of that city, on January 1, because of the refusal of the municipality to supply postage. The doctors announce that reports will be resumed when postage is forthcoming from the authorities.

THE trustees of the Massachusetts Hospital for Epileptics, located at Monson, have asked for $50,000 with which to construct a group of farm buildings to relieve congestion in the institution buildings proper. There are over three hundred patients in the hospital, the weekly cost of maintaining whom is $4.31 per capita.

RESOLUTIONS were recently passed by the New York Academy of Medicine recommending that the medical officers of the isthmian canal have ample powers to execute practical sanitary measures at the seat of operations during the construction of said canal, and that the commission include a sanitarian in its membership.

M. ADOLPH DEUCHER, a member of the medical fraternity, has been elected for the third time to the presidency of the Swiss Republic. At an early age he became interested in politics, and gradually rose from the lower offices to the dignified position of chief executive. The meager salary of the president, £720, is illustrative of Swiss simplicity.

THE establishment of a postgraduate school of Hygiene and Medical Jurisprudence in connection with the University of Turin has been authorized by the Italian Minister of Public Instruction. It is intended for medical graduates who wish to obtain the title of sanitary officer and for others who may wish to become proficient in sanitary science.

PROFESSIONAL nurses are seeking protection in Illinois. A bill has been presented to the legislature by the State Association of Graduate Nurses which contemplates the licensing of members of this guild. In order to prevent unqualified persons from assuming and working under the title of "graduate" or trained nurse a state test is the desideratum.

ALBERT J. AKIN died in New York City on the 12th ultimo, in the one hundredth year of his age. When ninety-six years old this centenarian suffered the fracture of a femur as the result of falling from a carriage. The bone united perfectly. A year later he sustained concussion of the brain and several fractures as the principal in another carriage accident, this time astonishing physicians and friends by an excellent recovery.

MADAM A. VASSILIADES, M. D., enjoys the honor of being the first woman physician to receive appointment to public office in Greece. She was recently made physician to the prison for women at Athens.

SENN Hall, the building recently added to the equipment of Rush Medical College of Chicago, largely through the beneficence of Doctor Nicholas Senn, was recently dedicated, Sir William Hingston, professor of clinical surgery in Laval University, Montreal, delivering the address of the occasion. The building was constructed at a cost of $130,000.

THROUGH the instrumentality of Bishop Brent, of the Philippines, a movement has been inaugurated to establish a large nonsectarian general hospital in Manila. The government has been petitioned to further the enterprise by an appropriation. If sufficient funds can be procured the institution will probably be modeled after the Boston City Hospital.

THE President of the Saint Louis Exposition Commission, on the recommendation of Howard J. Rogers, Director of Congresses, has appointed an executive committee to make arrangements for an International Medical Congress to be held in Saint Louis in 1904. Doctors F. J. Lutz, W. E. Fischel, L. H. Laidley, K. Tubolske, and W. G. Moore are members of the committee.

THE sale of adulterated phenacetin was recently detected in New York City. The inspectors of the health department procured three hundred seventy-three samples of what was sold for this product in the boroughs of Manhattan and the Bronx, and analyses demonstrated that three hundred fifteen of them were more or less adulterated, in some instances the powders being utterly devoid of phenacetin.

DOCTOR COLLINRIDGE, chief medical officer of London, has reported contamination of the Thames fisheries with the bacilli of typhoid fever. Whitebait, shrimps, smelts, and cockles are condemned, as well as oysters from the Whitstable oyster beds, twenty per cent of which were found infected. Shellfish obtained from points on the coast which supply the London market evidence sewage pollution in even greater degree.

THE legislature of Pennsylvania is about to attack the business of insuring the lives of minors. Two children are supposed to have been poisoned in order that insurance money might be obtained, and their parents, charged with having perpetrated the crime, are confined in prison awaiting the action of the grand jury. Several suspicious cases have since been disclosed and the insurance commissioner has undertaken to solve the mysteries connected therewith.

THE author of the best essay on "The Differential Diagnosis of Typhoid Fever in its Earliest Stages" will receive the Enno Sander Prize of the Association of Military Surgeons of the United States for 1903. Information relating to the contest may be obtained from the secretary of the association, Major James Evelyn Pilcher, M. D., of Carlisle, Pennsylvania. The board of award consists of Doctor Austin Flint, of New York, Colonel Calvin DeWitt of the Army, and Doctor Victor C. Vaughan of Ann Arbor.

THE Western Opthalmologic and Oto-Largyngologic Association held its eighth annual meeting in Indianapolis, April 9, 10 and 11, 1903, under the presidency of Doctor William L. Ballenger of Chicago. A joint meeting of the practicians in the two specialties was held at the morning session of the first day, and the afternoon session of the last day.

HENRY PHIPPS, of Philadelphia, who has acquired immense wealth through pursuit of the steel industry, offers a gift of $1,000,000 to found in the heart of the Quaker city a special hospital for consumptive patients, but the laws of Pennsylvania prohibit the erection of hospitals in thickly-settled portions of its cities. There is a bill in the legislature which contemplates the repeal of this enactment, and unless it passes the donator will probably transfer his project to New York City.

THE Germans are diggers in sand as well as delvers in science. The announcement is made that Doctor Rudolph Horzog recently discovered the temple of Aesculapius, for which excavators and archeologists have long been searching. The temple of the father of medicine was found situated beneath an old Byzantine church on the island of Cos, in the Ægean Sea, the birthplace of Hippocrates and the center where Aesculapian doctrines were taught. Among other objects of interest in the temple there posed a statue of Hygeia accompanied by an image of her serpentine companion.

DOCTOR S. WEIR MITCHELL has been instrumental in inducing Mr. Andrew Carnegie to offer the College of Physicians of Philadelphia $50,000 to expend in improvements on the library of the college, on condition that the authorities of that institution raise a second $50,000 to make the $100,000 required for the purpose. Messrs. F. W. Vanderbilt and Clement A. Griscom recently subscribed $10,000 and $5,000 respectively. This library already stands second in importance only to that of the Surgeon General's office in Washington.

THERE are six hundred members in the Medical Association of the Greater City of New York, one hundred twenty-three applicants having been elected during the past year. At the annual meeting, which was held January 12, Doctor Ransford E. Van Gilson, of Brooklyn, was elected to the vicepresidency; Doctor Arthur C. Brush was elevated to the chairmanship for the Borough of Brooklyn; and Doctor P. Brynberg Porter was reelected recording secretary. The necrologic record showed that ten deaths had occurred during the year.

THE practice of drug substitution was severely condemned in a set of resolutions adopted at a largely attended meeting of the New York College of Pharmacy, which was held on the 20th ultimo. The declaration was made in the preamble that the deceptive practice is "increasing at a rate which threatens serious professional and commercial difficulties." The members of the college pledge their individual and corporate efforts to prevent not only substitution in the dispensing of prescriptions but in the sale of physicians' armamentaria as well.

DOCTOR J. A. DEGHOREE, chemist to the Health Department of New York, recently made the announcement that wood alcohol, instead of ethyl alcohol, had been found in the preparation of Jamaica ginger and spirits of ammonia in forty of two hundred fifteen samples purchased of retail druggists of that city. Proceedings are pending against the offenders.

DOCTOR D. C. HAWLEY, of Burlington, Vermont, has been reelected mayor of that municipality. The doctor graduated from the University of Vermont in 1884, and since that time has practiced medicine in the city over which he rules. He has likewise been honored by the profession of which he is a member, being vicepresident of the American Academy of Medicine.

PLAGUE, which appeared at Mazatlan, Mexico, about the 15th of December, not only created a panic among the people, but cauesd the death of seventy-two persons. Mazatlan is on the Pacific coast, and as it has no railroad communication with the outside world, it is thought that the disease was introduced into that city from San Francisco by the steamer Curacao, monthly trips being made by this vessel between San Francisco and towns located along the Gulf of California.

THE interesting paper entitled "The Passing of the Historic McDowell Building at Danville, Kentucky," which was contributed to the June The Physician and Surgeon by Doctor William Lane Lowder, of McKinney, Kentucky, has attracted considerable attention. The photoengravings which elucidated the text have already been requested to illustrate abstracts made from the historic narrative by medical journals published in Columbus, Cincinnati, Richmond and Toronto, and reference has been made to it by other publications in this country, and in Europe, including the *British Medical Journal.*

THE Medical Society of the State of New York held its annual meeting in Albany last month. The committee appointed to confer with a similar committee from the New York State Medical Association in regard to consolidating the two societies, rendered a report, but no action was taken toward the accomplishment of the union, and the committee was continued. The following officers were elected: President, Doctor Algernon T. Bristow, of Brooklyn; vicepresident, Doctor Edward B. Angell, of Rochester; secretary, Doctor F. C. Curtis, of Albany; treasurer, Doctor O. D. Ball, of Albany.

THE seventy-fifth anniversary of the *Boston Medical and Surgical Journal* was celebrated, February 19, the publication having appeared as a weekly under the present name in 1828, but its progeny antedates even this year, as it is the product of a combination between two other medical journals, one of which was founded in 1812 and the other in 1823. Prior to the appearance of this journal, thirty-one medical journals had been launched in the United States, twenty-three of which had merged into other journals or suspended. We congratulate this contemporary on its uninterrupted career of usefulness and trust that it may continue.

A MEETING of physicians was recently held in the New York Academy of Medicine to consider the advisability of abolishing the Board of Coroners in that metropolis. The office has ceased to be a constitutional one and can be abolished by the legislature. Accordingly a commitete was appointed to confer with the Committee on Legislation of the New York State Medical Association and other committees representing medical societies for the purpose of ascertaining the prevailing medical sentiment regarding the office. The consensus of opinion at the meeting favored a division of the coroner's powers and duties between the board of health and the magistrates.

DOCTOR LUTHER H. GULICK has been appointed director of physical training in the public schools of New York City. The position was recently created by the Board of Education, and Doctor Gulick, who has devoted considerable attention to physical instruction, was the unanimous choice of the members. He is a graduate of the University of the City of New York, class of 1886, and for fifteen years has been in charge of the physical training department of the Young Men's Christian Association of New York. The game of basket ball is said to have been originated by him, and he has edited the rules of this popular sport each year since its inception. In 1890 he was elected president of the American Association for the Advancement of Physical Education.

DOCTOR W. E. B. DAVIS, of Birmingham, Alabama, died at his home February 24, 1903, in the thirty-ninth year of his age, his early demise resulting from injuries received in a street-railway accident. He obtained the degree of Doctor of Medicine from the Bellevue Hospital Medical College in 1884, and his name has since become synonymous with medical progress in the South. He was instrumental in founding the Southern Surgical and Gynecological Society, and for two years was joint editor, with his brother, of the *Alabama Medical Journal,* likewise being a member of the editorial staff of the *American Gynecological Jouranl.* He was identified with the American Medical Association, in which he held various offices, and enjoyed honorary membership in the British Gynecological Society. His specialty was operative gynecology.

THE American Medico-Psycological Association will meet in Washington, May 12, 13, 14 and 15, 1903, in connection with the Congress of American Physicians and Surgeons, it having become affiliated with that body by a resolution passed at its Richmond meeting in 1900. Sessions of the American Medico-Psycological Association will be so arranged as not to conflict with the program for the Congress. On Tuesday, May 12, the subject for consideration by the Congress will be "The Pancreas and Pancreatic Diseases." The address by the President, W. W. Keen, M. D., of Philadelphia, will be given at 8 P. M. On Wednesday afternoon, May 13, the Congress will consider the subject of "The Medical and Surgical Aspects of the Diseases of the Gall-Bladder and Bile Ducts." A large number of papers are promised in the preliminary announcement of the American Medico-Psycological Association. The Secretary is C. B. Burr, M. D., of Flint, Michigan.

THE Colney Hatch Asylum, the county hospital for the insane, located near London, recently sustained destruction of a wing of the building and lives of inmates by fire, five wooden buildings and over fifty lunatics, all women, perishing in the flames, some of the unfortunate creatures succumbing as they lay in their beds. Notwithstanding the panic-stricken condition of the patients, about six hundred of them were removed safely to the main building, but owing to the great difficulty in perfoming the transfer some escaped from the attendants and remained at large for the time being.

GERMANY has special hospitals for the accommodation of 30,000 tuberculous patients. The statistics of these institutions for the years 1896 to 1901 showed that of 100 cases treated 87.7 were dismissed as cured or improved, 8.8 as unimproved, 3.1 as worse, and that 0.4 died. The imperial health office of Berlin has reported concerning the destructiveness of tuberculosis in Germany as follows: Of 1000 deaths of persons between the ages of fifteen and sixty, 316 die of tuberculosis. Persons under fifteen and over sixty are seldom affected with the disease. The mortality rate of the entire population averages 242 per 100,000 yearly, increasing in the Bavarian Palatinate to 329, in Bremen to 337, and in Hesse to 341. The conditions in the German Empire are better than in France, Austria or Russia, but worse than in Switzerland, Belgium, Denmark, Norway or England.

RECENT LITERATURE.

REVIEWS.

INTERNATIONAL CLINICS: VOLUME ·II, TWELFTH SERIES.*

THIS volume is more than half taken up with therapeutic and medical topics and about one-quarter with surgical and gynecologic subjects. Among them are articles on passive movements and massage for the treatment of fractures, treatment of simple ulcer of the stomach, two cases of immediate death by the spinal injection of cocain, pancreatic cysts, experience gained from postmortems in the practice of medicine and surgery, resection of the cervical sympathetic, an outline of the organization and work of the medical department of the United States army, and some notes on the management of a modern private hospital. This volume is well illustrated both by plates and figures.

*Edited by Henry W. Cattell, A. M., M. D., Philadelphia, U. S. A., with the collaboration of John B. Murphy, M. D., Chicago; Alexander D. Blackader, M. D., Montreal; H. C. Wood, M. D., Philadelphia; T. M. Rotch, M. D., Boston; E. Landolt, M. D., Paris; Thomas G. Morton, M. D., Philadelphia; James J. Walsh, M. D., New York; J. W. Ballantyne, M. D., Edinburgh, and John Harold, M. D., London, with Regular Correspondents in Montreal, London, Paris, Leipsic, and Vienna. J. B. Lippincott Company, Philadelphia and London. Cloth, $2.00.

TWENTIETH CENTURY PRACTICE OF MEDICINE, VOLUME XXI—SUPPLEMENT.*

THE encyclopedic character of this great work is well known. The quota of volume originally designed was fully completed two years ago, but the publishers and editor alike, realizing the continued great advancement in medical knowledge, wisely supplemented the work with this volume. It is surprising how many subjects have required attention, but most noteworthy are those of the etiology and prophylaxis of yellow fever, the dual character of dysentery, the medical aspects of the *x*-ray, and the significance for diagnostic purposes of the constituents of the blood and its immunizing properties. The etiology and successful treatment of cancerous growths are by no means satisfactorily settled, and yet so much work has been recently done on this subject that a thorough review has been made of them. Those who possess the first twenty volumes should also acquire this one.

*Edited by Thomas L. Stedman, M. D., New York City. William Wood & Company, New York, 1903.

PROGRESSIVE MEDICINE.*

THIS volume contains the following reviews: Diseases of the digestive tract and allied organs, the liver, pancreas, and peritoneum by Max Einhorn; anesthetics, fractures, dislocations, amputations, surgery of the extremities and orthopedics by Joseph C. Bloodgood; genitourinary diseases by William T. Belfield; diseases of the kidneys by John Rose Bradford; physiology by Albert P. Brubaker; hygiene by Charles Harrington; practical therapeutic referendum by E. Q. Thornton. It will be noticed that the list of contributors this year is changed slightly from last year, but the standard remains the same. On account of the recent developments in the subject special attention is called to the article on diseases of the kidneys.

*Edited by Hobart Amory Hare, M. D., Professor of Therapeutics and Materia Medica in the Jefferson Medical College of Philadelphia. Octavo, handsomely bound in cloth, 412 pages, 54 illustrations. Per volume, $2.50, by express prepaid. Per annum, in four cloth-bound volumes, $10.00. Lea Brothers & Company, Publishers, Philadelphia and New York. Volume IV, December, 1902.

The Physician and Surgeon

A PROFESSIONAL MEDICAL JOURNAL.

VOLUME XXV. MARCH, 1903. NUMBER III.

ORIGINAL ARTICLES.

MEMOIRS.

THE URETERAL DILATATIONS, SPINDLES, RESERVOIRS AND AMPULLÆ.

By BYRON ROBINSON, B. S., M. D., CHICAGO, ILLINOIS.

THE ureter is a tube with a nonuniform caliber. It possesses constant and inconstant, regular and irregular localized spindle or fusiform dilatations both in man and animals. There are three constant ureteral dilatations, namely, the ureteral pelvis, the lumbar or proximal spindle, and the pelvic or distal spindle. Irregular spindles exist in the lumbar, but especially in the pelvic segments. The spindle-formed ureteral dilatations are connected by the narrow isthmuses (one-seventh, one-ninth, and one-tenth inch), which when the ureter is injected with solid matter become the location of easy fracture from manipulation. The dilatations are the ureteral ampullæ.

I.—THE PROXIMAL URETERAL DILATATION OR RESERVOIR—(*Calices and Pelvis*).

This is chiefly the ureteral pelvis. The proximal ureteral dilatation is known as the infundibulum, or erroneously termed the renal pelvis. It should be termed the ureteral pelvis. It is the first urinal reservoir, or collector from the various renal pyramids. The ureteral pelvis contains at its proximal end the ureteral calices and at its distal end the proximal ureteral isthmus or neck. It is the adrenal segment of the ureter, and extends from the base of the renal pyramids to or beyond the distal kidney pole. It lies imbedded in the perirenal fat capsule. It may be imbedded in a groove of the kidney substance. It is an oval cone, flattened dorsoventrally and terminates at the proximal ureteral isthmus or neck. The ureteral neck, induced by the medial projecting distal kidney pole, is the cause of the ureteral pelvis or dilatation. The distal termination of the ureteral pelvis varies in man; it may be three inches distal to the kidney pole. The ureteral pelvis, or the first main urinal reservoir, collects the urine from the renal pyramids until full, whence it periodicly contracts, forcing the urine into the ureter toward the second main urinal reservoir, the bladder. The proximal ureteral dilatation or ampulla, the ureteral calices and pelvis, is the first location of calculi formation, and when the calculus irritates it into wild or disordered peristalsis, ureteral colic is the result. Undisturbed ureteral rhythm or the natural periodic ureteral peristalsis which accompanies the normal periodic flow of urine through the ureter, produces no pain.

The distinct ureteral pelvis practicly belongs to erect animals or to the smooth kidney.

The ureteral calices and ureteral pelvis are very variable in size and shape and will hold from two teaspoonfuls to an ounce and a half according to my examination of over one hundred fifty ureters. Perhaps the large-dimensioned ureteral calices and pelvis are hydronephrotic, as the proximal ureteral isthmus, I noticed, was in such subjects generally narrow: perhaps frequent kinking produced occasional hydronephrosis.

The proximal ureteral dilatation or reservoir is the most significant of all ureteral dilatations as the most ureteral surgery has always been accomplished at this point in the removal of calculi, in ureteral drainage and in renal exploration. Fortunately the dorsal surface of the ureteral pelvis is practicly free from blood-vessels and hence can be safely incised extraperitoneally, explored with removal of calculi and sutured or safely drained unsutured. The ventral surface of the ureteral pelvis, or proximal urinal reservoir, is so richly covered with large vessels that exploration would be bloody and dangerous surgery.

In incision of the ureteral calices and pelvis the general rule is that the calices converge into two large arms, a proximal located in the proximal renal pole and a distal arm located in the distal renal pole. Occasionally smaller calicular tubes lie between them which will become incised.

When the renal cortex is incised to explore the ureteral calices or pelvis the incision should be executed in the exsanguinated renal zone of Hyrtl, that is, one-half inch dorsal to the external lateral longitudinal renal border. This incision will sever the calices obliquely, hence the dorsal and ventral renal segments should be accurately coapted and sutured in position in order to heal perfectly so that the original calicular tubes may convey the urine with the least obstruction due to cicatricial projections or calicular strictures. The proximal urinal reservoir, the ureteral calices and pelvis, is a distinctly rhythmic organ evacuating its contents periodicly when full. It does not depend on attitude or force of gravity.

Pathologic defects of the calices and pelvis lie mainly in defects of their walls (inflammatory products, paresis, tuberculosis or calculus deposited on the wall), producing deficient peristalsis or in the mechanic obstruction to the ureteral stream (calculus, kink, torsion, flexion, stricture). So long as the calicular and pelvic peristalsis is not inter-

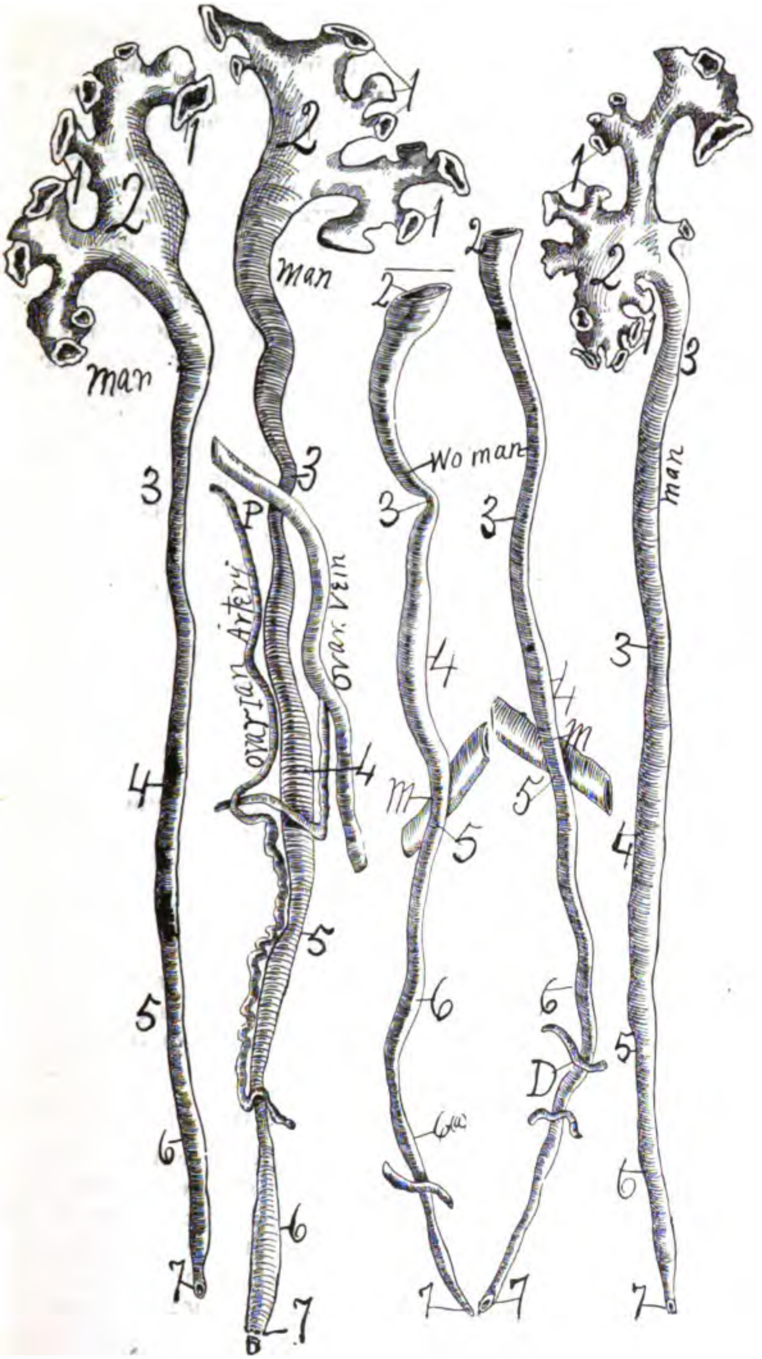

FIGURE I.—Five ureters, half life size, three with and two without calices and pelvis. The spindles are obvious, especially those of the woman at 4 and 6. There frequently exists two pelvic spindles, 6 and 6a. VI and VII are uretets from the same subject

fered with and especially the ureteral stream is not obstructed the ureteral calices and pelvis perform their function, which is periodic rhythm. However, as soon as any mechanic obstruction to the ureteral stream occurs (as by kink, torsion, calculus, stricture) the nondrainage induces residual deposits in the pelvis, but especially in the less powerfully rhythmic calices with resulting accumulation of bacteria, whence the vicious circle arises in the tractus urinarius exactly similar to the vicious circle arising from obstruction in the pylorus or biliary ducts—calculi.

Some years of clinic and operative observations on the tractus urinarius, but particularly the personal autopsic inspection of about six hundred abdomens, have convinced me that the wide range of renal mobility must occasionally kink and compromise the ureter with narrow proximal isthmus or neck, and hence induce ureteral pelvic and calicular dilatation with consequent residual deposits and bacterial accumulation, ending in deposits of calculi in the smaller and quieter calices as well as in ureteral, pelvic and calicular dilatation. Repeated kinking and obstruction of the narrow ureteral neck increasingly cripple the rhythmic power of the calices and pelvis, with an increase of bacteria and calculi in the residual urine of the proximal ureteral dilatation.

The kidney with the calices and pelvis frequently passes one and one-half inches distal from its usual position, hence this not only kinks and flexes the neck or proximal isthmus but it enhances the burden of the periodic rhythm to completely evacuate the urinal reservoir. The calices and pelvis, the proximal ureteral dilatation, periodicly and rhythmicly dilates and contracts every three to five minutes.

The proximal ureteral dilatation, the calices and pelvis, has age relations but scarcely enough functional relation to the tractus genitalis to be of practic importance.

Its age relations are of considerable extent but perhaps chiefly manifest in the calices which in senescence dilate in diameter and elongate in length. The calices lose their shapely form of early adult life. The apex of the renal pyramids atrophy, making more spacious the proximal lumen of the calices. The apertures of the cribrum benedictum (blessed sieve) become larger.

II.—THE MIDDLE URETERAL DILATATION OR LUMBAR SPINDLE.

This constitutes a practicly constant fusiform swelling in the lumbar ureter. It is the main proximal ureteral spindle, which may be as much as one-half inch in diameter. The spindle occurs as a heritage of the Wolffian body enhanced from the erect attitude, on account of the flexion or kinking of the ureter and consequent narrowing of its lumen by the projecting vasa iliaca. The sharp projecting brim of the

in their natural course relations. Observe the variation in ureteral calices and pelvis. The major distal arm of the calices is practicly a lateral tributary, while the major proximal arm of the calices is the principal in direction; however, the proximal arm generally has one or two fewer calices. The ureteral dilatations, spindles or reservoirs are: 2, the pelvis; 4, the lumbar spindle; and 6, 6a, the pelvic spindle.

pelvis, and the distalward movement of the genitals in man account for the middle ureteral isthmus and consequent lumbar spindle. The periodic, rhythmic function of forcing urine through the duct, with localized constrictions in the ureter, accounts for the evolutionary formation of dilatations, spindles. The lumbar spindle is one to three inches in length. The lumbar spindle, though constant, is irregular in location, length, form, number and diameter. It could entertain a large ureteral calculus, and still allow space for the urine to pass laterally to it for some time. Though the urine remains but a short time in the proximal main spindle, yet it is a urinal reservoir, like the ureteral pelvis or bladder, and calculi no doubt may lodge and increase in it.

Rarely minor irregular ureteral dilatations occur in the lumbar segments. The spindle begins on an average about two and one-half inches from the hilus renis. The spindle diminishes gradually proximalward but rapidly and abruptly distalward. It lies on the psoas muscle. It is more pronounced in woman than in man and is larger on the right than the left side. The lumbar spindle is more distinct in erect animals. It is not very distinct in carnivora (dog, cat) or ruminants (rabbit, cow). It is distinct in the sheep, buffalo, pig, and horse (soliped).

It is chiefiy due to the flexura iliaca ureteris whose projection is caused by assuming the erect attitude, which insures a pelvic position of the bladder. The vasa iliaca in the erect animal projects the ureter ventralward causing a kink, flexion or angulation in the ureter which offers obstruction to the ureteral stream and consequently dilates the segment of the ureter proximal to the vasa iliaca. There may be two lumbar spindles, that is, the main one divided. The average diameter of the lumbar spindle is about one-third of an inch. It may be more than one-half inch in caliber. Its average length is about two inches. The diameter of its proximal end (ureteral neck or proximal isthmus) is one-ninth of an inch. The diameter of its distal end (middle isthmus) is one-sixth to one-third of an inch. The right lumbar spindle is shorter and more pronounced than the left, especially in woman.

I found the diameter of the lumbar spindle varying from one-fourth to one-half inch. When the diameter was more than one-half inch it was considered pathologic. If more than one lumbar spindle exists, the diameter is proportionately small. In double ureters the lumbar spindles were exactly similar in location but one was generally smaller. Though the lumbar ureteral spindle varies considerably in location and dimension—diameter, length and form—it is practicly constant.

The lumbar spindle is located diagonally on the psoas muscle. It is not always regular but may sometimes be composed of two smaller ones succeeding each other, of which the distal one is usually the larger. In rare cases a series of swellings of unequal caliber may succeed one another. The lumbar spindle gradually tapers long and slender proximalward to it—ureteral neck—but bluntly and abruptly at its distal extremity previous to its passage on the ventral surface of the iliac artery.

The pronounced blunt and abrupt distal ending of the lumbar ureteral spindle is mainly on the right side and is more noticeable in woman. In the evacuated state the lumbar ureter may be observed shimmering through the peritoneum as a flattened pronounced spindle with its blunt end distalward. Though flattened in the cadaver from intraabdominal pressure, while in rhythmic activity it has a cone shape. The large lumbar spindle in the majority of subjects is invaluable in lumbar ureteral surgery. It presents ample wall and caliber for manipulations. It may enable the operator to force a calculus lodged at the middle ureteral isthmus into the largest diameter of the lumbar spindle in order to fragment it by pressure or by the point of a needle introduced at a healthy place in the ureteral wall without ureteral incision. The lumbar spindle allows space for catheterization and for the various methods of ureteral anastomosis.

The strong periodic rhythmic action of the lumbar spindle every three to five minutes and its large urinal stream facilitate the passage of a ureteral calculus, and if the calculus passes the small proximal ureteral isthmus (one-tenth inch) the combined force of the lumbar spindle will likely force it rapidly through the larger middle ureteral isthmus (one-sixth inch).

The lumbar spindle is one of the most mobile segments of the ureter and hence can be widely displaced for surgical intervention.

FUNCTIONAL AND AGE RELATIONS.

The lumbar spindle experiences first, *functional* relations, and second, *age* relations.

Functional.—The lumbar spindle is markedly more pronounced in woman and on the right side.

The arteria ureterica proximal in general is emitted from the ovarian artery as it crosses ventral to the largest diameter of the lumbar spindle, hence the lumbar spindle is liable to be most nourished at its middle point, that is, at its largest diameter. In pubertas (twelve to fifteen years of age) the uteroovarian artery springs into activity and the arteria ureterica proximal becomes distended and engorged with blood, giving extra nourishment to the spindle (to a less degree this occurs in the male). As menstruation arrives the arteria ureterica proximal becomes periodicly engorged, hyperemia exists for about fifteen days during each month, half of the time, and overfeeding the lumbar spindle arises which tends to increase its dimensions, length and diameter. This hypertrophic process is again enhanced by the constant ureteral congestion of pregnancy, further increasing the volume of the spindle. With the cessation of the function of the tractus genitalis the arteria ureterica proximal ceases supplying the spindle with so much periodic blood and the ureteral wall rapidly undergoes a retrogressive process resembling the process in the ductus Botali, the arteria umbilicalis and arteriæ hypogastricæ—an arteritis physiologica. It however weakens the ureteral wall and gives rise to irregular dilatations in the lumbar spindle.

Age.—In senescence *age* relations the arteria ureterica proximal

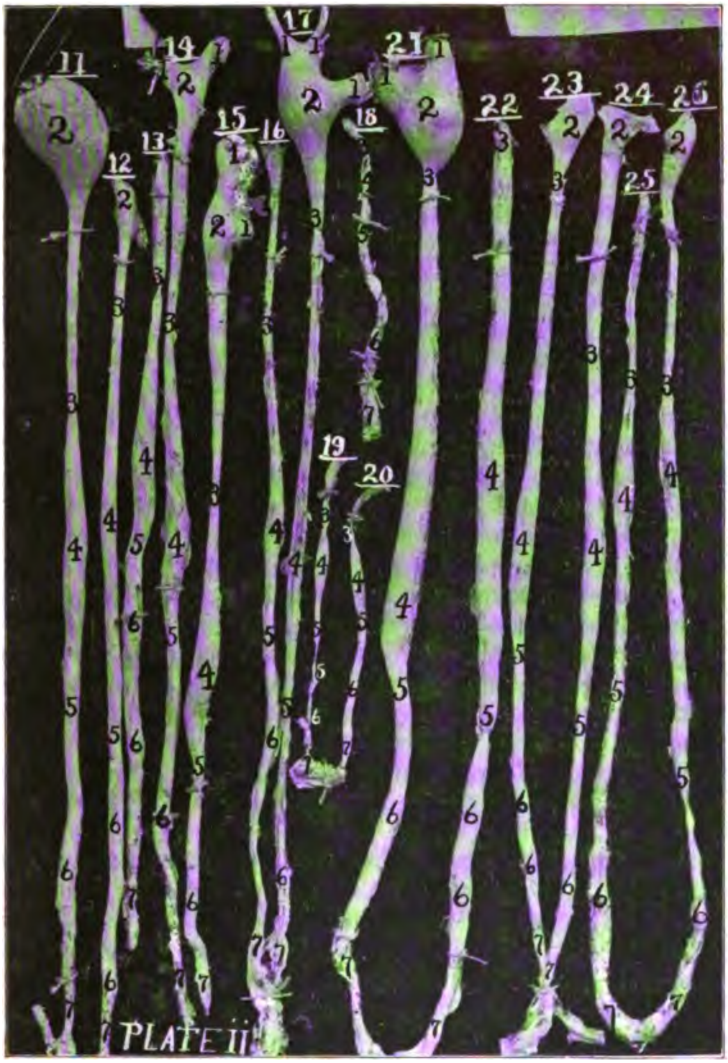

FIGURE II.—Half-tone, half life size. It illustrates the form of sixteen paraffin-filled ureters: 11 and 12, 14 and 15, 16 and 17, 19 and 20, 21 and 22, 23 and 24, 25 and 26 are pairs from the same individual. The ureteral dilatations, spindles or reservoirs are: 2, the pelvis; 4, the lumbar spindle; 6, 6a, the pelvic spindles. Number 18 is the ureter of a six-pound monkey; 19 and 20 is from a recently-born female infant; 21 and 22 show remarkably large ureteral reservoirs.

assumes the state of arteriosclerosis, becomes calcified, loses its parenchymatous cells (muscle, elastic) and its framework cells (connective tissue) are increased. The muscular and elastic cells disappear while the connective tissue cells of the intima and media multiply as well as perivascular connective tissue—all rapidly compromising the vessel lumen, and ending in defective nourishment of the lumbar spindle. Added to this is the age degeneration of the other ureteral vessels whence the age degeneration and defective nourishment of the spindle ends in irregular dilatation of the lumbar spindle. The *x*-ray and paraffin casts of one hundred fifty ureters demonstrate these findings.

III.—THE DISTAL OR PELVIC URETERAL DILATATIONS.

There is single or multiple constant pelvic fusiform ureteral swelling. It is smaller and more irregular than the lumbar spindle. There may be one distal main ureteral spindle, or a third ureteral urinal reservoir. It is located between the pelvic brim and the wall of the bladder. It may be as much as one-quarter of an inch in diameter. Calculi can lodge and grow in it. The pelvic ureteral spindle appears to be generally broken into two, a smaller proximal and a larger distal, perhaps due to the pelvic periureteral sheath, the vesical wall constriction and other forces not yet clearly understood.

The ureter is not an inert duct, passing urine by gravity or other extraneous force. The flow of urine through it is due to a rhythmic periodic peristalsis, similar to that of the intestines. The urine would pass the ureter if the subject stood on his head, or was hung by his feet. Calculi are forced through it, proved by physical laws, for they are checked at the ureteral isthmuses or sphincters.

The ureter is an ever active rhythmic duct, always full, functionating with a diastole, a systole and an intervening pause. In the dog I noted by experiments that the ureteral wave occurring every three to six minutes, began in the ureteral calices and pelvis, and passed distalward on its ureter, like a white cylinder, at the rate of a foot in twenty seconds.

The chief ureteral spindle is the distal one. It is the pelvic spindle which is supplied by the arteria ureterica distal emitted from its uterine artery.

It lies distal to the ureteral elbow or in the base of the ligamentum latum. I have noted three ureteral pelvic spindles in one subject. The pelvic spindle is perhaps due to obstructions offered to the ureteral stream in its passage through the constriction in the bladder wall. It may be aided by the resistance offered by the elbow of the ureter in the lesser pelvis from the more pronounced pelvic spindles in woman, to the arteria uterina distal which is emitted to the middle point of the main pelvic spindle.

The dimensions of the pelvic spindle or spindles are considerably less than those of the lumbar spindle. The diameter of the pelvic spindle may attain one-third of an inch but is more liable to be about one-fourth inch. If one pelvic spindle exists its length may be one to one and one-half to two inches; if two exist they are about one inch each.

The pelvic ureteral spindle offers more ample lumen and wall for surgical interventions than the other pelvic segments. The distal pelvic ureteral spindle, the main pelvic spindle which is directly supplied by the arteria ureterica distal from the uterine, is of extreme importance in pelvic ureteral surgery, as its more ample wall and lumen provides means for surgical manipulations. Besides the distal pelvic spindle is located at the point of general ureteral trauma during surgical intervention on the pelvic viscera, particularly in hysterectomy. Nearly all injuries to the pelvic ureter occur near the distal arterioureteral crossing, that is, in the distal pelvic ureteral spindle or in the ureter as it courses through the base of the ligamentum latum.

FUNCTIONAL AND AGE RELATIONS.

The pelvic ureteral spindle experiences first, marked *functional* relations with the tractus genitalis, and second, *age* relations.

Functional.—The functional relations of the pelvic ureteral spindle is due to its connections with the uteroovarian artery by means of the distal arteria ureterica emitted to the ureter at the point where the ureter and uterine artery cross each other about two-thirds of an inch from the lateral cervical border.

In pubertas the distal arteria ureterica becomes engorged with blood, the ureter at this point becomes hyperemic and excessively nourished. During the menstrual periods the arteria ureterica distal becomes intensely engorged for about ten days and the segment of the ureter (the pelvic spindle) which it supplies, becomes exceedingly hyperemic, inducing a hypertrophic state of the spindle. During the entire gestation months, intense constant hyperemia of the pelvic spindle exists. To a certain degree the same state exists in males from the arteria ureterica emitted at the point where the vas deferens and ureter cross each other.

At the cessation of function in the tractus genitalis, that is, in the climacterium, the arteria ureterica distal experiences a kind of arteritis physiologica resembling the process experienced in the ductus Botali, arteria umbilicalis and arteriæ hypogastricæ. The process consists in decrease of parenchymatous, functional, cells (muscles, elastic) and increase in framework (connective tissue) cells, for example, connective tissue increases in the intima media and perivascular spaces while muscle and elastic cells atrophy or disappear. This arteritis physiologica produces defective nourishment in the pelvic ureteral spindle and consequent ureteral degenerative dilatations.

Age.—In age relations of the pelvic ureteral spindle arteriosclerosis plays the chief role. The walls of the arteries supplying the ureter calcify, the muscles and elastic cells (functionating cells) atrophy and degenerate, the connective tissue cells (framework cells) multiply, increasing the thickness of the vascular intima and media, consequently narrowing or compromising the vessel lumen with the result of defective nourishment of the pelvic ureteral spindle and pathologic dilatations. I have noted this condition especially in woman.

The ureteral reservoirs are of extreme importance in medicine as nearly all available ureteral surgery must be performed in the reservoir on account of sufficient ureteral wall and ample lumen for surgical manipulation. The narrow ureteral isthmus may be invaginated into a ureteral spindle—dilatation. I learned from the observation of a large number of ureters that when dilatation of the ureter occurred the ureteral isthmuses generally remained in their original caliber—that dilatation occurred in the ureteral reservoirs, the calices, pelvis, lumbar and pelvic spindles.

The ureteral isthmuses are points of obstruction to the urinal stream and to calculi. They are points where kinking, flexion, angulation or torsion easily occur, especially at the proximal ureteral isthmus or neck. From lack of sufficient ureteral wall and limited caliber limited surgery can be applied to the ureteral isthmus, except for invigination purposes.

A FEW FACTS REGARDING PARETIC DEMENTIA.*

By IRWIN H. NEFF, M. D., Pontiac, Michigan.
ASSISTANT PHYSICIAN IN THE EASTERN ASYLUM FOR THE INSANE.

MENTAL diseases have a fascination for the physician—a fascination unfortunately which does not stimulate him to a thorough study of the underlying causes of insanity. The average practician contents himself with a diagnosis of "insanity", a consideration of the advisability of committing such a patient to an institution, and a prognosis which is often more optimistic than the case permits.

It must be admitted that difficulties attend the study of mental disorders. Necessarily many theories have been advanced which have required consideration and investigation. Opinions today are at variance regarding many practic points concerning the insanities. It is not, therefore, to be wondered at that the physician shrinks from an exhaustive study of the psychoses and places psychiatry in a "niche" by itself. He tends to regard it as a specialty having peculiar features, and a study to which his attention may be invited only occasionally.

The increased amount of study which has lately been given to normal and abnormal psychology has compelled the physician to devote some time to these problems. There are many facts regarding insanity which can only be obtained from the family physician. I can merely refer to heredity and the influence of environment, two factors which are deserving of investigation. It would therefore seem that it is essential that the physician should have a well-defined idea of the groups of insanity and their characteristics; otherwise he cannot conscientiously certify nor can he give appropriate treatment.

Paretic dementia appeals very strongly to the attention of the physician. It is a psychosis which has a well-defined pathology, is omnipresent, and has a syndrome which is characteristic. I have only time to refer to a few of the important features of the disease, and to call attention to some points of general interest and practic importance. I wish to consider in the order mentioned, first, the early diagnosis; second, prognosis and termination; third, etiology.

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*Read before the Ann Arbor Medical Club.

(1) *The early diagnosis* of paretic dementia is all-important. It is of incalculable benefit to the patient and of the greatest importance to friends and relatives. Therefore, we may say that the early diagnosis of the disease is of twofold importance: First, benefit to the patient; second, relief to the family by preventing or moderating the excesses and expenditures so prevalent in the early stage of paresis.

I wish to dwell particularly upon the early symptoms of the disease, as the patients are generally seen by the family physician in the prodromal or incipient stage. From the very beginning, the psychic condition of a paretic is mental enfeeblement. There is mental failure manifested in the ethic sense and in the affective and intellectual faculties of the patient. These early mental symptoms of the disease have been so carefully studied and so well explained, that it seems unnecessary to describe them here. The physician should search carefully for a positive evidence of mental decay. This will be shown in the character of the mental symptoms and can be easily detected if the individual symptoms are studied. The positive evidence of mental decay and the coexistence of one or more of the physical stigmata which I shall presently mention permits of a diagnosis. The consideration of the physical signs or the physical complications of the disease is quite important. Paretic dementia should never be diagnosed from the mental symptoms alone; the presence of one or more of the physical signs is absolutely essential. Although the mental symptoms may be strongly suggestive, experience has taught us that a diagnosis should not be founded on these alone. I wish to call attention to two physical complications that can quite often be observed in the initial or prodromal stage and which can easily be noted by the physician.

The attention of the physician should be first directed to the pupil. Pupillary changes occur quite frequently in the early stage and often antedate the mental symptoms; as is well known a bilateral pupillary contraction and an Argyll-Robertson pupil are quite often found in the initial stage of tabes dorsalis. An analogy is seen in the prodromal stage of paresis. In these cases, a bilateral myosis and an immobile pupil are often present and are of considerable significance. Reflex immobility of the pupils or irregularity with a sluggish reaction, are peculiar to general paralysis of the insane and are often cardinal symptoms. As illustrative of this, I shall call attention to an analysis of all cases—sixty-three in number—admitted to the Eastern Michigan Asylum during the past five years. An immobile pupil was observed in twenty-four per cent of these cases, ten per cent showed Argyll-Robertson phenomena, and sixty-two per cent of all cases showed pupillary irregularities with sluggish reaction.

Another easily applied test for developing paresis is the knee-jerk. In the prodromal stage, it is often active and exaggerated, and only absent in the so-called ascending type; that is, the form wherein the cord symptoms antedate the cerebral syndrome. Later in the disease, the knee-jerk is diminished or absent. Although there is no invariable rule, an active knee-jerk may be considered to be a fairly constant symptom of the prodromal stage. An analysis of the knee-jerk of sixty-three paretics admitted to the Eastern Asylum during the past five years gives fifty-seven per cent with an active or exaggerated knee-jerk, sixteen per cent with knee-jerk absent, twenty-seven per cent with knee-jerk present but showing qualitative changes. I have purposely refrained from a consideration of all the physical stigmata of the disease, as it is my intention to allude to only a few of the cardinal physical symptoms which could be easily ascertained by the attending physician.

As a summary of the principal physical signs in the initial stage, I would give them in their order of importance, as follows: Argyll-Robertson, immobile or contracted pupils, exaggerated or perverted knee-jerk, facial tremor, slurring or halting speech, defective innervation of the face, and cerebral seizures. These physical symptoms should always be looked for in all suspected cases, and carefully considered with the mental history of the patient. It is from the coexistence of the mental and physical symptoms, that we make a diagnosis of paretic dementia.

To recapitulate we have in paretic dementia a disease in many cases which can be diagnosed in the early stages, by reference to the pupillary reflex, the knee phenomena and the characteristic progressive dementia.

(2) *Prognosis and Termination.*—General paralysis of the insane is a progressive and fatal disease attended with steady mental and physical failure. As is well known, the course of the disease is often interrupted by remissions which assume a more or less favorable appearance. This improvement is more apparent than real, as can be very easily determined. It is said with considerable truth, that "if a diagnosis of paretic dementia is once made, the outlook is a gloomy one." Unquestionably treatment in an institution may to some extent secure an improvement; that is, by surrounding such a patient with hygienic influences and improving his physical state, there often results an improvement in the mental condition although this improvement may be only of a temporary nature. Recently some authorities have said that the duration of the disease has been lengthened, while others incline to the opposite opinion.

An analysis of over four hundred fifty cases admitted to the Eastern Michigan Asylum since the opening of the institution gives the following facts: Thirty per cent have terminated fatally within two years, ninety per cent within five years, ninety-eight per cent within six years. For the purpose of comparison these cases have been divided into periods. It was not found that at any time the course of the disease showed any material change, nor was the duration of the disease affected by any particular line of treatment.

(3) *The Causation of Paretic Dementia.*—In a recent discussion before the Philadelphia Neurologic Society, Doctor Charles K. Mills said that he had come to the conclusion that tabes dorsalis and general paralysis in their pure forms are essentially the same; that is, pathologicly and pathogeneticly; although he acknowledges that the tabetic

patients after many years may become demented, and that this dementia is not of a paretic tabetic type. He further states that it is the localization and the diffusion of the lesion which gives us the clinic type; spinal in the one case, cerebral in another, cerebrospinal in a third. This theory is accepted by many psychiatrists and explains many debatable points regarding etiology. Unquestionably the two diseases have an etiology which may be similar in many respects.

During the past four or five years much has been written regarding the predisposing and active causes of paretic dementia. Although the subject considered in detail is of particular interest to the alienists, it is believed by the writer that a presentation of a few facts may not be without interest to the physician not engaged in asylum work. Not the least interesting feature regarding the etiology of paresis is the attempt which has been made during the past year to ascribe it to an inherited taint; that is, it is claimed by some authorities that the predisposition to general paralysis is inherited, and that other causes are merely exciting agents.

Mott, in his paper on "Observations Upon the Etiology and Pathology of General Paralysis" (*Archives of Neurology*, London County Asylum, 1899), gives reasons for supposing that general paralysis of the insane is a primary degeneration of the neuron, with secondary inflammatory changes. His conception of the disease briefly expressed, is as follows:

General paralysis is primarily a parenchymatous degeneration due to loss of durability of the nerve cells and a premature decay of tissue in which inherited and acquired conditions take part, with the result that progressive death of the last and most highly developed nervous structure ensues as soon as their initial energy is unable to cope with the antagonistic influences of environment.

This theory is not out of harmony with our present views regarding some forms of brain and cord degenerations. It is more likely that the fact that in paretic dementia there are demonstrable brain changes leads to the conclusion that the mental symptoms are entirely dependent upon the actual loss of brain cortex. We now know that the variation in mental symptoms which is so frequently seen in general paralysis is not dependent on any particular pathologic brain lesion, but is due to the influence of organic stimuli. We presume that when the organic stimuli which make up the coanesthesias are normal, the emotional tone is optimistic; when, on the other hand, of disordered function, the emotional tone is pessimistic. This theory has been applied to other insanities and is a rational explanation of the variation in the symptoms.

Mickle thinks that in the entire group of mental diseases taken together, heredity is really more prominent than it is in paretic dementia taken separately. Even when insanity in the family can be traced, he claims that it is not paresis which is inherited; but a tendency to organic or functional nervous diseases, as epilepsy, paralysis, et cetera.

Müller seems to think that heredity, especially nervous diseases in parents, bears an important relation. He found hereditary taint in forty-six per cent of men and sixty per cent of women.

Krafft-Ebing has demonstrated a rather curious fact; namely, that an inherited taint is found more often in women. As supplementing this hereditary influence, it is interesting to refer to the studies of Macke, who found the stigmata of degeneration in these cases, showing large preponderance as compared to normal man.

Manam, after investigating the antecedents of two hundred fifty patients with general paralysis, came to the conclusion that an insane heredity is the most common morbid antecedent, twenty-five per cent of his cases showing this inherited predisposition. He also believes that neuropathic antecedents are quite frequently found and constitute a hereditary predisposition.

A review of the recent text-books on mental diseases is corroborative of these conclusions. The subject has also received much discussion at the various congresses of alienists, and it is acknowledged quite generally that heredity may play an important part in the development of the disease, although this is, as yet, debatable.

An analysis of four hundred consecutive cases of general paralysis admitted to the Eastern Michigan Asylum certainly would seem to indicate that the hereditary element is a strong predisposing factor to the disease. Heredity, neuropathic or insane, was present in forty per cent of the cases. During the past twelve years cases of cerebral syphilis and other brain degenerations have been carefully differentiated from general paralysis. The following statistics may be taken to bear entirely on cases of paretic dementia:

The number of cases admitted from January 1, 1890, to January 1, 1902, with a family history determined, one hundred ninety. Of these heredity, neuropathic or insane, was present in eighty cases, or forty-two per cent; direct heredity existed in fifty-five, or thirty per cent; indirect heredity in twenty-five, or twelve per cent. It would appear as above stated that the large number of writers are in accord with this view; namely, that hereditary predisposition is present in a variable number of paretics. This inherited predisposition is either a tendency to organic cerebral disease similar to the inheritance seen in organic cerebral affections other than paresis; or it is a transmitted tendency to insanity from neuropathic or insane ancestors.

SYPHILIS.—The great mass of literature concerning syphilis and its relation to paretic dementia is with difficulty sifted. Much diversity of opinion still exists and the matter is, as yet, in an unsettled state, although it would appear that we are gradually approaching some uniformity. All manner of arguments have been advanced by investigators to prove their claims, and statistics involving thousands of cases have been brought forward. It would appear that the argument depends on the question whether syphilis is an active factor in the production of paresis, or whether it is merely a predisposing cause. It is conceded that syphilis can cause the disease, but whether it is due to a late action of the toxin, or whether the disease develops from some other cause in a system weakened by syphilis, is as yet undetermined. The fact that syphilis can cause a train of symptoms resembling in many respects those found in paretic dementia and with pathologic lesions distinct and showing marked differences adds to the existing confusion. We would seem to be justified in formulating the following conclusions:

(1) Syphilis has existed in fifty to seventy-five per cent of paretics. Statistics of the Eastern Michigan Asylum give sixty-one per cent.

(2) The subjects of syphilis are from sixteen to seventeen times more likely to contract the disease than those not similarly affected.

(3) The anatomic change found in the nervous system, while not distinctive of syphilis, may be related to the action of the syphilitic toxin.

(4) While syphilis can be proven to exist in a percentage of cases, in many instances a history of syphilis cannot be obtained. The pathologic findings in these cases are similar to the changes found in those in which there was a history of syphilis.

ALCOHOL.—Considerable stress has been placed on alcohol as a cause of the disease. However, we are now confident that many cases in which alcohol was thought to be an active cause were not typic cases, but were really forms of alcoholic insanity with organic cerebral changes. While we here also have diversified opinions, the consensus of opinion may be taken to be, first, that it has not been proved that alcohol by itself can produce paretic dementia; second, that it can prove a powerful assistance in the aggravation of symptoms by accelerating organic changes which have already begun.

SEXUAL EXCESSES.—This theory has lately been revived. Statistics have, however, failed to show that by itself it can produce the disease. Mickle's statistics ("General Paralysis," 1886) say that it is of minor importance, it then being placed as a causative agent at a fraction of over one per cent.

Statistics from the Eastern Michigan Asylum based on an analysis of four hundred cases show a similar percentage. It is difficult to conceive of such a cause producing definite organic cerebral disease. If sexual excess is suspected as a probable cause care should be taken to separate cause and effect. It is more than likely that the latter will prove to be the case.

MENTAL STRAIN.—Those who accept mental strain as an exciting cause for paresis, define its meaning to be prolonged intellectual labor attended by worry and mental strain—financial or otherwise. It is difficult to conceive of a painful emotional condition, even if prolonged, as being able to produce an organic brain disease. In justice to the advocates of this cause, it should be remembered that they regard it as an exciting cause only. It may be that it acts in a contributory way, similar to the action of the two causes mentioned above, sexual excesses and alcohol.

SUMMARY.

(1) It would appear that the clinic syndrome of paretic dementia may be produced by several agents.

(2) An inherited tendency exists in a comparatively large number of cases and may be a strong predisposing agent.

(3) The precentage of syphilis in general paralysis is too considerable to be disregarded. In all probabilty it is an important element in the production of the disease.

(4) Other influences than syphilis may act and be productive of similar symptoms.

(5 The predilection of the disease to age, rest, occupation, et cetera, is as yet not clearly understood. It is probably referable to the idiosyncrasies of the disease.

(6) It seems probable that if an equal amount of study were given to other brain degenerations we would find the same variations in etiology.

MEDICAL MALPRACTICE.*

By WILLIAM P. LANE, M. D., DETROIT, MICHIGAN.
MEMBER OF THE DETROIT BAR.

MEDICAL malpractice is that practice in the domain of medicine, either contrary to the law of the land or to established customs of the profession, causing either death or impairment of health. Practice of medicine contrary to the law of the land calls for the interference of the state authorities in the form of criminal procedure; that against established customs, involving as it does a lack of ordinary skill, brings the offending physician into court by civil process in an action to recover damages.

Malpractice, as recognized by the criminal courts, is confined exclusively to cases of abortion or attempted abortion, and so far as the intent is concerned, it makes no difference whether instruments be employed, or whether well-known and recognized ecbolics be administered. Conviction in the latter class of cases, however, is extremely rare on account of the therapeutic range of the different drugs that are popularly supposed to cause uterine contractions to the extent of expelling the fetus.

The intent of the physician who administers ergot, savine, borax, cotton root compound, tansy, pennyroyal, arsenic and other mineral irritants is hard to prove, when the varied therapeutic properties of these drugs would be brought in issue. Were he a professional abortionist, even, the doctrine of "reasonable doubt" might protect him, and if he had the shadow of a reputation in his profession, it is a certainty that he would escape conviction.

Abortion by the use of instruments is more certain than by drugs and more easily proved, and the instruments vary from the crude wooden skewer or knitting needle of the ignorant midwife, or unfortunate victim herself, to the highly perfected uterine sound and blunt-nosed probe in the hands, I regret to say, of the skillful and oftentimes reputable practician.

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*Read before the WAYNE COUNTY (Detroit) MEDICAL SOCIETY.

Since the advent of asepsis, abortion has become a science; though it must be borne in mind that in spite of the most scientific precautions, death at times claims its victim, as a reminder to man that Nature cannot always be outraged with impunity without a proper penalty.

It has been a long stride in this nefarious practice from the primitive methods of the professional abortionists of India in employing the twig of a tree smeared with asafetida with resultant death from peritonitis or blood poisoning and reporting of death from snake bite, to the elaborate and scientific present method of aseptic preparation, with attendant nurse, of womb curetting for alleged endometritis, fibroids, polypi or other neoplasms; and if, perchance death intervenes, to the report to the authorities of one of a great number of plausible causes.

Abortion, as understood in medicine, contemplates the expulsion of the contents of the uterus before the seventh calendar month of gestation; expulsion between that and the ninth month is called "premature labor." The law, however, makes no such distinction. Legally, abortion is the unlawful expulsion of the fetus at any period of gestation. And, here, again, we encounter distinctions between medical and legal terms. Medically, the lines are finer drawn. The fetus has lost its identity as the embryo after the fourth month. Embryo and fetus both look alike to the law. Fetus it was from the beginning, and fetus it remains until expulsion.

The law, at one time, made a distinction in the gravity of the offense, whether committed before or after quickening. Now the degree of criminality is the same at whatever period of gestation unlawful expulsion is produced and death results. I can find no fault with the law as it is at the present time. So far as intent goes, I believe one who would directly induce abortion at an early period would have very few scruples about inducing it at a later one.

Our statutes make one who has committed abortion upon a woman quick with child, when either child or mother shall die, guilty of manslaughter, and prescribe a penalty of imprisonment in the state prison for a period of not more than fifteen years, or by fine not exceeding one thousand dollars, or both, at the discretion of the court.

It is not the purpose of this paper to take up the moral features of abortion under all conditions. I am dealing now with that class of cases wherein stealth and secrecy are employed in the attempt of a woman or her family engaging a willing and conscienceless scoundrel to aid in hiding from the world her sins, and with the modern pleasure-loving matron who, wishing to shirk the cares and responsibilities of maternity, finds in her family physician that elastic conscience that will permit him to give her "monthly treatments."

Under certain conditions, the statutes recognize abortion, and the moral law permits it. As has been cogently said by an eminent Catholic divine:

"The use of means whose direct and intended effect is something else, though indirectly it may cause the expulsion of the fetus, if such a case be practical, is not abortion in the moral sense of the term Under extraordinary circumstances, as when the mother's life is at stake, this is justifiable on the principle that we are not obliged to omit a necessary or useful good action because evil consequences may follow, provided the evil consequences are not intended or directly sought, and the reasons for the performance of the good action are sufficiently weighty to justify the permission of the evil effects. If this principle were not true, we would hardly be able to discharge the duties of life; for example, we could not defend ourselves against violence. In such cases, the evil effects are not used as means for a good end; this is never allowable.

"Direct abortion is intrinsicly wrong, for it is a violation of the law of nature; no conceivable excuse can justify it. Some try to ease their consciences by the opinion that the fetus does not possess its own principle of life, the soul, until forty or eighty days after conception, or even until the time of quickening or perceptible motion after about four months. In the first place, this opinion is no longer maintained by physicians, phychologists or moralists of recognized standing. In the second place, the decision of this point is not material to the question of the immorality of abortion, though some try to persuade themselves that if they have not destroyed life, they have done no wrong. It would startle us, I think, if we knew to what extent this impression exists and is the subject of conversation in circles from which we would expect such subjects to be excluded. Whatever be the legal definition of abortion, from a moral standpoint it is the direct and artificial expulsion of the immature fetus at any moment after conception. If animated by its own soul, its expulsion is actual murder; if not, it is anticipated murder. In either case it is real abortion, destruction of life and highly criminal."

The man who commits direct abortion whatever may be his condition in a future life, when he stands convicted here deserves and generally receives the contempt and detestation of his fellow men and his sin follows him even after he has expiated the vengeance of the law. The hand of every God-fearing and moral-loving man is against him, and when he emerges from the prison into which a just law consigned him, purified and rehabilitated as he supposes, to take up again the practice of the profession, the tenets and obligations of which he has violated and outraged, that same just law will say "No."

The most learned judicial tribunal in the world, the United States Supreme Court, in 1898 handed down a decision affecting this class that will endure so long as our republican instutions survive. In 1878 Doctor Benjamin W. Hawkin, a legally qualified practician of the State of New York, was convicted of a felony, having performed a criminal abortion, and was sentenced to imprisonment for ten years. At the expiration of his term of servitude he attempted to resume practice, with the result that the Medical Society of the County of New

York brought suit against him for violation of a state law. His counsel argued that a construction of the law making it illegal to practice medicine after conviction of a felony is unjust and unconstitutional inasmuch as it in effect adds a new punishment for the crime. The people contended, however, that the state has the right to enact good moral character as one of the qualifications for the practice of medicine. The first trial resulted in conviction which, in a final appeal to the United States Supreme Court, was upheld. This decision will, therefore, stand as law for all future time, and will debar any man or woman convicted of a felony from practicing medicine in this country, where the State law so provides, and this felony clause is common in all the States regulating the practice of medicine.

Malpractice as taken cognizance of by the civil courts contemplates the lack of ordinary skill, learning, and diligence in his treatment of a case to that extent that will render the physician or surgeon liable in damages to his patient. It has at times been a source of amusement to me to note the extreme and almost hysteric fear of well-known and reputable physicians and surgeons, founded upon their ignorance of the application of the law as applied to their profession. As a class I know of none that hold in greater dread the majesty of the law. Surgeons of recognized great skill and reputation have told me that they have not a dollar's worth of property in their own names because they do not know at what time the law may step in and take it away in an action for malpractice. The fear displayed of this great bogie would in less intelligent men amount to superstition. As a matter of fact there is no profession, trade, or calling the members of which are so amply or liberally protected by the law in their vocation as those of the medical profession. True, every physician or surgeon, no matter how varied his attainments or how great his skill, may at any time be subjected to the unenviable notoriety of a malpractice suit, but if he is what he professes to be; if he is possessed of ordinary skill and learning and exercises that same degree of diligence and care that physicians and surgeons ordinarily employ practicing in similar localities he need have no fear of the law. Hence, physicians practicing in country towns and villages removed from centers of population where opportunities for acquiring the latest and most improved methods and appliances are necessarily limited, cannot be and are not held to the same strict requirements as to the degree of skill and learning as their brethren practicing in the larger centers of population where the advantages for keeping abreast of the times are much greater.

Persons assuming to be qualified for the practice of medicine and engaging in it, impliedly promise thereby that they possess the requisite knowledge and skill to enable them to treat with reasonable success such cases as they undertake. But this rule does not require the highest degree of skill, knowledge, experience and care but only such as physicians and surgeons practicing in similar localities ordinarily possess or such as will enable them to treat the case understandingly and safely. They are not only bound to exercise reasonable and ordinary care and diligence but must also use their best judgment in determining the malady and mode of treatment, but are not responsible for a mistake of judgment. If the settled practice and law of the profession allows but one course of treatment in a particular case then any departure from such course might properly be regarded as the want of knowledge, skill, experience or attention. It makes no difference to what school of medicine a practician belongs he undertakes only to treat a case according to the recognized law and rules of his particular school.

While it is true that a physician or surgeon is liable in an action for malpractice for want of ordinary skill and care, yet he is not liable either in contract or tort for injuries consequent upon unskillful or negligent treatment if the patient by his own negligence directly contributed to them to an extent which cannot be distinguished and separated; and as the legal presumption is against an inference of malpractice, in an action for such the burden is upon the plaintiff to show his freedom from negligence contributing to the result complained of. However, when contributory negligence is relied upon as a defense the burden shifts and rests on the physician.

One who represents himself to the public as a physician and surgeon is responsible to possess and exercise that degree of skill which is ordinarily possessed by physicians in practice in similar localities. And for an injury resulting from a want of ordinary skill, or from failure to exercise proper diligence and caution in the treatment of a case the physician must be held responsible; and when a surgeon while in attendance upon a patient directed a third party to assist in dressing a wound knowing that there was danger of infection but negligently assured such party there was no danger, and relying upon his assurance such party became infected with poison, the physician was held liable, even though he did not know that there were abrasions and scratches upon the hand, since he was not justified in assuming that the hands were free from such wounds.

A physician or surgeon who does not exercise ordinary care and diligence is guilty of negligence, and if a physician by the exercise of reasonable care and skill ought to discover that an ailment is incurable and does not; that it will not yield to usual treatment and that the patient will not be benefited, he is guilty of negligence. It is his duty to act with the utmost good faith toward his patient and if he knows that he cannot accomplish a cure or that the treatment adopted will probably be of no benefit it is his duty to advise his patient of these facts and if he fails to do so he is guilty of a breach of duty.

To illustrate the protection the law gives the physician in cases involving error of judgment there are two leading cases. One is in New York, where the plaintiff sued his physician for erroneously reporting his illness to be smallpox. He was removed by the inspector of the Board of Health to a smallpox hospital; the inspector examined him before removal, the defendant being present and giving his opinion. It was held that the action could not be maintained. The other case is in Pennsylvania, where a physician after examination of plaintiff certified to his insanity. The patient was sane, but the court held that the physician was guilty of error of judgment merely and could not be held liable.

It must not be inferred that the law would excuse the physician under any and all circumstances on the charitable ground that his mistake was due to an error of judgment. Whatever a physician and surgeon undertakes in the line of his professional duties calls for his best effort and judgment, whether it is a charity case or one involving a generous fee. He is not bound to accept any case unless he wishes, but when once undertaken the case commands his best skill and judgment and attention, and the charity patient stands in the same position in the eyes of the law as the most affluent, and he law will hold the physician liable when he is guilty of gross carelessness or inattention.

I have known of several instances wherein patients have been operated upon and the results have not been satisfactory, that the surgeons have neglectd to present bills. Why should this be? The law imposes no contract relation between physician and patient as to affecting a cure, and in the instances I have in mind if the surgeons were not lacking in ordinary skill, learning, diligence and care as applied to those cases, they were entitled to sue for and recover their proper compensation. However, gross carelessness, incompetency, lack of due care and diligence are always proper defenses to the collection of fees, and when a physician or surgeon has collected his fee for services in an action at law, such suit is an effectual bar to action for malpractice.

It is not necessary that one be a physician or surgeon in the medical acceptation of those terms, to render him liable in an action of malpractice. The law recognizes no particular school of medicine. It is sufficient that one assumes to practice. However, since the crusade, that started some few years ago and at the present time has reached every state in the Union, was inaugurated, aiming at a higher standard of medical education, the one who merely assumes to practice would not only be inviting a malpractice suit, but another that would more effectually reach him, namely, criminal prosecution.

To summarize: The physician or surgeon will not be held liable if he brings to his aid in the treatment of a case reasonable and ordinary skill and learning and exercises reasonable diligence and care. He will not be held accountable for mere errors of judgment provided he uses reasonable care and diligence. He will be held liable if he is guilty of gross carelessness or a failure to exercise proper diligence and caution, regardless of his degree of skill and learning. He will be held liable if he employs methods prohibited by law. He will be held liable when he omits altogether the established mode of treatment and follows one that has proved injurious, for this latter implies a lack of skill. The physician or surgeon does not impliedly contract to cure, but if a contract be entered into, the law of contracts will apply. When the defense to an action for malpractice is that plaintiff's own negligence contributed to the result, the burden of proving it is upon the defendant.

25–29 BANK CHAMBERS.

THE SURGICAL TREATMENT OF SMALLPOX.

By LAUREL B. SANDALL, M. D., Au Sable, Michigan.

CAPTAIN AND ASSISTANT SURGEON OF UNITED STATES VOLUNTEERS.

During my first eight years in medicine I had the good fortune to see but one case of smallpox. This was a mild case in the early stage in a free clinic in Chicago. When the doctor enterd the small clinic room and with a look of horror on his face diagnosed the disease smallpox the most of us students lost our thirst for medical knowledge and almost clambered over each other to reach the zero weather outside, hoping to be purified by the cold and ozone-laden atmosphere.

With little knowledge of smallpox and no other contact with it, in the fall of 1899 while on the advance with American forces along the railroad north of Manila, I received my first exprience in treating this disease.

Among the natives of the Philippines, smallpox is nearly always present, smouldering along with sporadic cases during the dry season, only to break out afresh with thousands of cases during the rainy months. In central and northern Luzon a large portion of the entire population is pock-marked, many having partial or total loss of one or both eyes from this cause. In the Southern (Visayan) Islands, especially Samar and Leyte, there are fewer people who bear evidence of the disease, but during recent years it has been very prevalent there.

The way in which the natives live favors disease of all kinds. They huddle together in a one- or two-roomed hut, wherein at night the entire floor is covered with sleeping humanity, on thin mats. In the average families all the members eat with their fingers from a general supply and drink from a cup made from a cocoanut shell, which is never washed during its years of use. The floor of these houses, made of split bamboo placed an inch apart, is four to six feet from the ground. Under this the family caribou (native ox) is tied at night for safety from ladrones, and here the pigs are penned, either tied by a string through the ear or running at large. The pigs are the scavengers of the country and live on the offal and waste from cooking, dishwashing, et cetera, including excrements, all dropped through the floor. It is necessary to see the filth surrounding a native house to fully appreciate how the inmates live. To an occidental, the only question arising is why they do not all die from contagious and infectious diseases. They pay no more attention to smallpox than to measles, will hide their patients and practice every means of deception that could occur to an oriental mind, to keep the health officers from discovering one of their friends afflicted with the disease.

During three years' campaigning and garrison duty on five different islands, I was stationed in but one town wherein I did not know smallpox to be present. The mortality among the natives was appalling and the fatalities among the Americans that came under my observation and treatment so great that I was led to seek any mode of treatment which might give promise of a lower death rate. After eighteen months' experience I decided upon the one which is the basis of this article.

In May and June, 1901, I was in charge of three isolated posts. The natives were dying by scores daily, and the only American stricken with the disease in this section under my care died on the eighth day of discrete smallpox, the case being milder in every particular and the number of pustules much smaller than in the one cited below. The government furnished virus for free vaccination of all natives, and over ten thousand were vaccinated at these three posts in a few weeks.

I wish to speak first of an initial rash. I saw several hundred cases of smallpox in different stages, and in every case seen before the second rise of fever and before the shotty rash appeared, this particular rash was present—easily seen on the white skin of the Caucasian, less prominent but always discernible on the darker skin of the native Filippino. Beside the diffuse, macular or measly rash, there was always present a deep-pink, blood-red or purplish pin-head-sized eruption, seemingly "set" into the skin, consisting sometimes of only half a dozen such spots scattered over the chest, abdomen, groin or inner side of the thigh, sometimes of a hundred or more on a patch the size of the palm of the hand. In some instances no other rash but this was discovered before the shotty rash appeared. This rash was so indicative and constant that after a few months' experience, I was always able to make a diagnosis from it when found. One patient in particular, a soldier on whom only a few spots appeared on the chest, had been sent to the typhoid fever ward where I was then on duty. On the recognition of this rash alone, no other being present, diagnosis of smallpox was made, against the protests of all who saw him. Eight days later he died, the case having been a severe one of discrete smallpox.

Sunday morning, June 16, 1901, a corporal of Company K, First Infantry, was reported at sick call almost delirious with a temperature of 104° Fahrenheit. He had been feeling badly only two days, complaining of severe headache and aching of the bones, not localized in the back. Upon casual examination of the arms and chest, nothing was noted. When stripped for the temperature bath, several of the pin-head-sized blood-red spots referred to above, were found in the left infraclavicular region and a patch of perhaps fifty, purplish in color, in the left groin. Smallpox was diagnosed immediately. Two tents were erected on the beach, one for the patient and one for nurses. One of the soldiers in Company K, who was an immune, kindly volunteered to nurse his comrade; and as an assistant we secured a native Filippino of the Twenty-first Company of native scouts, also an immune.

Being chagrined and mortified at the death rate of my previous experience with smallpox; being away from medical advice and books and remembering that the absorption of poison from the pus is the direct cause of death, I reasoned that to prevent or remove the pus must be the indication for treatment. Pursuing this indication in a crude way led me unknowingly to the surgical treatment of smallpox.

For two days the patient's condition was little changed. On the night of the second day, his temperature was practicly normal and through the succeeding stages never went above 100° Fahrenheit. The shotty rash appeared on the face, arms, chest, and on the margin of the scalp, and by the fourth day covered the entire body, the spots on the face becoming vesicular.

General Treatment.—Aside from headache powders the first few days and occasionally a slight purgative, little or no internal medication was used. Antiseptic baths were given over the entire body twice a day, and the face and hands were almost continually bathed.

Surgical Treatment.—Needles, knives, and scissors were given the attendants and hundreds of little swabs were made by twisting absorbent cotton on the ends of toothpicks. An antiseptic solution of bichlorid or of carbolic acid (the only ones at my disposal) was constantly kept at the bedside. A solution of bichlorid one to five thousand was first used and gradually increased to one to one thousand. Carbolic acid was used one to one hundred at first and later one to forty. As soon as the first spots became vesicles they were opened, the contents wiped away, and then one of the little swabs dipped into the antiseptic solution was with a slight twisting motion thoroughly applied to the vesicle floor. As the rash developed rapidly, it was found impossible for the two attendants to open all the vesicles before they became pustules, but special attention was paid to the face and hands. The patient would lie for hours, often asleep, with the two attendants working at the pustules as described above, and always expressed relief from the work rather than fatigue or discomfort. One part of the body would be exposed at a time and the largest pustules opened first. I do not think that there were twenty drops of pus in all the spots on the body at any one time, and as stated above the temperature never went above 100° Fahrenheit; yet he had many more spots on his body than other patients that I had seen pass into delirium and die on the seventh or eighth day. A very few small pits remained about his nose and some on his arms and chest. The eyes were highly injected, swollen and very painful; in fact that was the only symptom of which he complained. Recovery was complete and the loss of flesh scarcely noticeable.

In this case and in thirty or more subsequent ones, the effect of the different modes of opening the pustules was closely observed, and it was found that those from which the entire top was removed healed the quickest; when simply opened they sometimes closed again and refilled. In opening the pustules there is no pain and seldom any blood, even if the entire top is removed. It is practicly the same as opening a blister or vesicle of any variety.

The assortment of instruments was limited, but I would recommend an instrument resembling a curved keratome, and would remove the whole cover or top of the pustule. An intelligent native made for me crude instruments resembling this for use among the Filippinos and in the native smallpox hospitals.

If it is conceded that the presence of pus in the skin is the direct cause of death in smallpox, it is likewise conceded that its prevention or its removal when present is the rational treatment. The spots opened in the vesicular stage often heal without pus, and the pustules, opened and evacuated, heal more rapidly and prevent the absorption of the poison into the system. It is remarkable with what rapidity a person of mediocre intelligence will open and cleanse the pustules. It is tedious and requires a great deal of help, but it shortens the disease and that it saves life cannot be questioned. It also prevents or lessens pitting, which in some instances would be of great value.

The expense should not be a bar when results are so plainly within reach and the saving of life so easily and surely within the hands of the attending surgeons. If the pus in the thousands of pustules were collected in one abscess, no surgeon would hesitate to evacuate it immediately, and the fact of it being scattered over the entire surface of the body does not to my mind change the indication of treatment, the mode being merely a matter of detail.

SUMMARY.

Begin the antiseptic baths as soon as the patient is seen, keeping the skin as nearly aseptic as possible.

As soon as the first spots become vesicular open them by removing the top. Remove all the contents and apply a swab saturated with some antiseptic solution, reaching the entire surface of the vesicle floor.

Treat pustules in the same way after they have formed, endeavoring to keep the skin free from pus. If this is done there is little secondary fever.

The vesicles once thoroughly opened and destroyed do not proceed to pus formation but heal directly, thus obviating the possibility of absorption of the poison.

TRANSACTIONS.

CLINICAL SOCIETY OF THE UNIVERSITY OF MICHIGAN.

STATED MEETING, FEBRUARY, 25, 1903.

THE PRESIDENT, CHARLES B. NANCREDE, M. D., IN THE CHAIR.
REPORTED BY JOSHUA G. R. MANWARING, M. D., SECRETARY.

REPORTS OF CASES.

A CASE OF PARALYSIS AGITANS.

DOCTOR PATTON: This woman is thirty-one years old. She has been married and divorced. There is nothing particularly interesting in her family history except that she proceeds from a very nervous family. There is no history of serious disease—syphilis, consumption or any other infectious ailment. She has never been well, has experienced nearly all the diseases of childhood, having had typhoid, whooping-cough and measles all in one year. Her periods were very painful at puberty. After she was married she had a leucorrheal discharge. About four years ago her present affection began with a tremor in the right hand. The fingers were not involved and the tremor was from side to side. Later she experienced pain in the right wrist. The tremor then extended to the fingers and they are now held in the postition of holding a pen. Later the tremor involved the right leg, and then the left hand, left arm and left leg. The muscular rigidity is shown by the position in which she holds her head forward. The patient says she is much weaker than when the disease seized her. The only change in her condition is a constant progression. This tremor is a rather coarse tremor, about four or five to the second, and is not of the intention variety. She can control it and in this it differs from the tremor of multiple sclerosis. It is a typic case of paralysis agitans. The history is entirely free from any etiologic factor. Paralysis agitans usually appears in patients past middle age, although it began in this patient when she was only twenty-seven years old. The treatment of this case is hyoscine hydrobromate, one one-hundredths of a grain night and morning, elixir of iron, quinin and strychnin, static spark and breeze. The tremor seems to be controlled a great deal by the hyoscine hydrobromate.

DISCUSSION.

DOCTOR SOLIS: In relation to the point regarding age. In the last six years we have had four cases of about the age of thirty, so that we find many patients whose ages are below those which the books give. In no instance was there any family history of the disease. This woman had a great emotional strain. A few months after her marriage she was under depressing circumstances and the disorder followed this period. Emotional disturbance is nearly always a factor in paralysis agitans and this patient displayed that very decidedly. Her husband abused and threatened her and this disorder followed soon thereafter. There is not much known of the pathology of this disease. The latest investigators classify it as a disorder of the motor cortex. There is some change in the blood supply. None of the patients recover. They become progressively worse. I have not known of a single case that recovered. The condition may last thirty years.

HYSTERIC ATTACKS.

DOCTOR SOLIS: The case I wish to report is that of a young girl, aged nineteen years. The family history is absolutely negative. The patient had all the usual diseases of childhood, with no sequelæ. She attended school until seventeen years of age, when the present affection began. This consists of attacks in which the patient makes an outcry, becomes unconscious, froths at the mouth, bites her tongue and undergoes a series of tonic and clonic muscular contractions. The first attack occurred at 3 o'clock in the morning. Then the other attacks followed at varying intervals from four to three and two weeks, finally occurring every night. At times she would have two or three attacks in one night and then have none at all for several weeks. The patient has no warning of the attack. The attacks are followed by deep sleep and when they occur during the night the patient does not waken. About seven months ago the patient had eight severe attacks in one night and after this was unable to walk for a week. For two days following she had severe head-ache and dizziness.

Examination showed patient to be five feet eight inches in height and her weight one hundred five pounds, fairly well developed with the exception of the mammæ, which resembled those of a child of ten years. The heart and lungs were normal. The uterus was undeveloped, measuring only one inch. Menstruation was absent. Blood and urine examinations were negative. Elimination was very poor, tongue heavily coated, acne in face.

The patient was treated according to the results of the above examination. Elimination was procured by means of sodium phosphate continuously with calomel at intervals, and by baths. Then efforts were directed toward stimulating the growth of the uterus and the establishment of menstruation. The direct current of a strength of fifteen to twenty milliamperes, the negative as the active electrode, *intrauterine,* was employed for this purpose, while the induced current was applied directly to the mammæ. Treatments were given daily. After three months' treatment menstruation appeared, the flow continuing three days, during which time and immediately preceding the patient had no attacks, seemed brighter and more intelligent. Next month, treatment being continued, there was no menstruation, but at the time of period, patient had more severe and frequent attacks. At the end of five months, the uterus had increased one inch in size, the bust measure had increased from thirty to thirty-four inches, and there was a general gain in body weight. Menstruation appeared at the regular time.

The case is still under observation. The hope is that the establishment of menstruation will tend to assist in the building up of a normal stability of the brain.

REPORT OF SOME CASES OF UTERINE FIBROMATA WITH SPECIMENS.

Doctor Burr: The histories of the cases that I wish to present are very much alike. The ages of the patients range from thirty-one to forty-three years. The patient from whom this first tumor was removed is forty-one years old. There is no essential personal history. Her menstrual history is normal both as to amount and to regularity. She has had no hemorrhage as a result of the growth. The tumor was first noticed about a year ago but the patient suffered no symptoms except a fullness and some mental discomfort from knowing that she had a tumor growing in the abdomen. There was slight shortness of breath and some constipation. The growth reached above the umbilicus, was perfectly movable and the motion was communicated to the cervix and to the hand in the vagina.

The patient from whom the second tumor was removed is thirty-one years of age and has practicly the same history as the first. In neither case was there any pain nor any discomfort, and in both cases the tumors were freely movable. At the last clinic we had a condition which we thought was an interstitial fibroid. The growth extended downward into the pelvis, giving a feeling of considerable firmness, having a perfectly regular outline and occupying a position in the median line. It felt very much like these other tumors, but on opening the abdomen we found that we had to deal with an intraligamentous cyst. We spoke at the time of the examination of the fact that the tumor had an elastic feel, rather more than the average fibroid, and we made the reservation that it might be a cyst. It contained what looked like pus, but it was not infected, and we have had no trouble with the patient whatever. The only difference we had to make in our ordinary technique was that we drained this through the vagina on account of possible contamination.

Tumor number one was very easily removed. You see the broad ligaments came off quite low down so that the tumor had grown largely at the expense of the fundus and the posterior wall. The growth was very easily delivered through an ordinary incision and there was no trouble in lifting it out, clamping the broad ligaments, and cutting it away from the cervix. The operation was perfectly easy. In this case I was able to leave in one inch of the cervix, which preserved the integrity of the vaginal vault. In the majority of such cases it will be found that the cervix is elongated and acts as a pedicle, allowing the tumor to be readily drawn outside.

The second tumor was quite different. It was very low down in the pelvis and was firmly held below. It was impossible to get it out of the abdomen, and we had to work at the bottom of the pelvis in order to secure the vessels in the broad ligament. It was not until I had put clamps below the uterines that I was able to deliver the growth. The cervix was nearly all taken up so that there was nothing upon which I could perform a supravaginal hysterectomy. That made it necessary to do a panhysterectomy, which makes a more difficult operation and subjects the patient to greater risk as it is necessary to open the vagina; but, after securing the uterines we were able to lift the vaginal vault and cut the tumor away. I did not drain in this case as there seemed to be no probability of infection. The only difference between this case and the preceding one is that in this the vaginal vault has been interfered with. The two tumors show two methods of removing fibroids, supravaginal amputation and panhysterectomy. The second tumor plainly shows the very short cervix. The difficulty is greatly increased when there is a short cervix as the cervix if elongated acts as a pedicle. It was also more difficult to separate the bladder in the latter case. However, the tumor was removed without very great difficulty and the patient has made a good recovery.

The third tumor was removed yesterday. The history of the case is very much the same as the others except that there was more bleeding. The tumor was removed by the supravaginal method by

Doctor Peterson. The submucous growth is well shown on section. It would seem that with a submucous fibroid like this there would have been more hemorrhage, but the patient gives no history of metrorrhagia or menorrhagia. In these cases the abdominal vessels seemed particularly well developed.

At the last clinic there was a patient presented who came here for removal of a fibroid tumor. She had a tumor which reached well above the pubes and which was evidently connected with the cervix. We found quite a number of differences between this tumor and the others. The cervix was short and soft. The uterus was retrodisplaced, and we found on the posterior surface a bulging similar to Hegar's sign of pregnancy. The patient's history, so far as pregnancy was concerned, was not very reliable. There were some signs of pregnancy present aside from those in the pelvis. The breasts revealed the presence of colostrum, but she had quite recently been nursing a child. She menstruated last in January, but to vitiate the bearing of that symptom, she gave history of irregularity all her life. From the history it was difficult to make a diagnosis, but from the physical signs, I advised the woman to go home and wait a month or two. I feel quite sure the patient is pregnant, though she is equally positive that the condition is due to a new growth. A few weeks or months will certainly establish the diagnosis.

The patient whom I present has a tumor about the size of a large orange. She is thirty-nine years old and this tumor has been growing seven or eight years. It gives her very little discomfort as far as the growth itself is concerned, but she flows very profusely. She uses ten or twelve napkins a day when she menstruates and is very anemic—thirty-three per cent hemoglobin; her red cells number 3,200,000, so, as Doctor Morse says, there is evidence of chlorosis in her condition. The red cells are merely shadows. This patient, besides being very anemic, has a perverted appetite. She takes large quantities of charcoal and has for several years. She has been doing this since the development of this tumor. She has no metrorrhagia, but the flow at the regular period is both profuse and prolonged. She undoubtedly has a submucous fibroid, which will be removed at a subsequent clinic, after the blood has been improved by the administration of iron.

TWO OVARIAN CYSTS AND UTERINE FIBROID.

Doctor Peterson: I wish to speak of two ovarian cysts recently removed at the clinic. One was an intraligamentous and the other a monolocular cyst. These cysts illustrated the various ways in which an ovarian growth can develop. The first case was that of a woman fifty-five years old. She dates her sickness to one year ago when she began to have frequent micturition. About two months ago, she noticed on the right side a mass about the size of a turkey's egg. She had no pain except when lying on the right side.

Examination showed an irregular abdominal mass, which projected on the left side above the umbilicus. On the right side it extended into the flank. Vaginal examination revealed fluctuation in the mass which extended into the pelvis. Its immobility and the fact that the uterus had been drawn up, suggested the diagnosis of intraligamentous cyst. Operation demonstrated the correctness of the diagnosis. There were two cysts, the left was larger than the right, but each had invaded the broad ligament.

The surgical treatment of these growths varies according to the operator, but the great desideratum is to gain access to the layers of the broad ligament and dissect them out., enucleating them from their beds. With the aid of the Trendelenburg position, nothing should be done blindly or in the dark. It is better to spend twenty-five minutes in dissecting than to perform a hurried operation and take the chances of tearing the bowel.

The cyst on the right side was carefully dissected out after which an enormous raw surface was exposed which it seemed advisable to drain, so I made an opening into the culdesac. I had the posterior surface of the right broad ligament in plain sight and it seemed best to split it so that the lower portion would be on a level with the drainage low down in the pelvis. I thought it best to locate the ureter before doing this and found it just within the posterior fold, so if I had cut without being careful, I would have cut off the ureter and would have had to make an end to end anastomosis or put it into the bladder. These cysts can be dissected from the intestine in the same way, but if we find that separating the adhesions between the cyst wall and the broad ligament threatens to tear into the bowels we should leave a portion of the cyst wall on the bowel.

Now arises the question of drainage of these cysts. Recently when I was in the East, I asked if it is customary to drain cases of intraligamentous cysts. The reply was that drainage is no longer practiced in abdominal surgery but that the wound is closed and no complications arise; but I know that they do drain in some cases because I saw one of the surgeons operate on an intraligamentous cyst the next day and there was no question about the drainage. He drained and drained thoroughly by way of the vagina.

The second patient was operated on at the last clinic. It was a very interesting case, at it was an enormous cyst. The woman was forty-four years of age and the cyst began about ten years ago. It had been growing slowly for about two years so that it began to be noticed by her friends. Last fall it began to grow more rapidly and she has since had frequent attacks of pain. It was a large cyst, extending up to the ensiform cartilage, and contained many gallons of fluid.

When she entered the hospital she had a temperature of 102°, and shortly afterward showed signs of la grippe. Her temperature rose to 104° and once registered 105°. I thought the rise due to the la grippe and waited but the temperature never fell to normal.

A question arose regarding the diagnosis. Did we have a suppurating cyst, did we have a cyst with a twisted pedicle, or did we have an inflammatory condition of the outside of the cyst? The last diagnosis seemed most probable and the operation showed this to be correct. It was the most universally adherent cyst I have ever seen, though fortunately the adhesions were quite recent. The entire cyst was adherent to the peritoneum. It was also adherent to the omentum and the bladder, so an enormous peritoneal area was left raw and bleeding after the removal of the cyst. The pedicle was not twisted.

Then the question arose, Should we drain or not? I hoped we had not introduced any infection or if it had been introduced that it would be rendered innocuous by the large quantities of salt solution with which the peritoneal cavity was flushed.

We closed without drainage. When we began to operate the patient's pulse was 170. It improved during the operation and shortly afterward was 128 to 130. Of course, the improvement during the operation was due to removal of the pressure of the cyst against the diaphragm. Tonight, four days after the operation, she has a temterature of 102°, a good strong pulse, and says that for the first time in months, she is free from pain. The final decision has not yet been made in regard to drainage in intrapelvic work and every case must be decided for itself.

I want to speak of a case which I saw in private practice today, illustrating the difficulty of making an absolute diagnosis regarding pelvic tumors. The patient is a girl twenty-two years of age, who has menstruated very profusely since thirteen years of age. Her parents told me that this is a family trait, her mother and grandmother both having shown this profuse menstruation and nothing was thought of it until it became necessary for her to use thirty or forty napkins at each period. Of course this is a severe drain upon her, but otherwise she is well. I examined her today and found the uterus enlarged about four or five times the normal size. The uterine mass is hard, occupies the median mass and is perfectly symmetric. Of course, at once when I felt the growth, I thought of possible pregnancy, but there is absolutely no confirmatory sign, as changes in the areola, or the presence of colostrum. The sign which Doctor Burr did not mention and upon which I lay great stress, the blueness of the vaginal wall, is not present. I could find no evidence of its being a pregnant uterus. It is a surprising tumor in a girl twenty-two years old. I have never before found a fibroid in a patient so young, although they are reported in girls of eighteen. If it is not fibroid what is it—sarcoma? That is a possibility. Of course a microscopic examination of the curetings might throw some light upon the diagnosis.

I shall perform an abdominal operation because whether fibroid or sarcoma, such a tumor must be removed, as in a girl so young it is serious.

This is an interesting case from the standpoint of what one will say to the patient and the relatives when a single girl presents such an enlargement. I told the parents frankly that it is always the duty of the surgeon to consider pregnancy. I said of course I had not the slightest suspicion in the case of their daughter, but whenever a patient comes to a surgeon with a symmetricly enlarged uterus and the possibility of pregnancy he must consider it. I said that I could see no confirmatory signs of such a condition and consequently thought I was dealing with a tumor. I said this in such a way that they could not take offense. I spoke also of the seriousness of the case and of the possibility of the tumor being malignant. Sometimes we cannot depend upon a history of profuse menstruation, although it would seem that in a case like this we might. I intend to operate on Saturday and then we will be able to see what this tumor is.

Operation disclosed a submucous fibroid the size of two fists. The tumor was enucleated and the uterus and appendages preserved.

In regard to the operative treatment of these growths the statement has been made that we should preserve the cervix whenever possible for fear of prolapse of the vaginal vault if the cervix is removed. I think this is something which rarely occurs. The panhysterectomy method was elected for the first seventy-five of these tumors which I removed and this accident was not a complication. So far as I could observe the patients did just as well as those upon whom I performed supravaginal amputation. The latter, however, is a more desirable operation for the danger of sepsis is less.

ORIGINAL ABSTRACTS.

MEDICINE.

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THE PARASITE OF SMALLPOX.

COUNCILMAN, Magrath and Brinckerhoff publish conjointly "A Preliminary Communication on The Etiology of Variola," in *The Journal of Medical Research,* Volume IX, Number III. The authors were enabled to carry on these investigations through the "liberal and enlightened policy of the health department of the city of Boston," which gave them "access to material for anatomic and histologic study."

As early as 1892, Guarnier reported the finding of peculiar *living* bodies enclosed in epithelial cells, both in variola and in vaccinia. Since this time these bodies have been studied by many observers, more particularly by Wasielewski, but no success attended their efforts to demonstrate the life history of the parasites, indeed it has been questioned whether they are really living bodies. The authors of the above mentioned paper endeavor to settle this point. They describe the life history of the parasite as occupying two cycles, an intracellular and an intranuclear cycle.

The Intracellular Cycle.—"In the lower layers of the epithelial cells of the skin before there is any evidence of vesicle formation" "small structureless bodies from one to four microns in diameter" are seen lying in vacuoles. These bodies as well as the vacuoles steadily increase in size until they become as large or larger than the nucleus of an epithelial cell. As they increase in size evidence of structure, such as granules, appear. So far no definite nucleus has been distinguished. When the growth of the parasite is complete, which corresponds to the formation of the young vesicle, segmentation takes place, "leading to the formation of small round bodies about one micron in diameter. To this time the nuclei of the epithelial cells are not greatly altered.

The Intranuclear Cycle.—After segmentation of the intracellular body, one or more small round or oval ring-like bodies appear in the nucleus of the epithelial cell. These bodies increase in size until the nuclear ring becomes indistinct and finally disappears. The degenerated cell may break down and set free the parasite. The authors regard this intranuclear body as a further stage of development of the intracellular body and the spores which form "from its segmentation as the true infecting material of variola."

Relation of the Parasite to Variola and Vaccinia.—The authors have been able to demonstrate the intracellular body in the eruption of vaccinia and in rabbits inoculated with the contents of variola pustules. They have been unable, however, to demonstrate the intranuclear body in either case. The authors claim that when they inoculated monkeys lesions developed which must be regarded as variola and "in these the *intracellular* and the *intranuclear* cycles are found. It may be that herein lies the difference between variola and vaccinia. The authors do not, however, commit themselves on this point.

The so-called parasite has not yet been demonstrated in the detritus of cells and exudation. It is suggested that the "intranuclear cycle is sexual in character."

D. M. C.

SURGERY.

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PRIMARY CARCINOMA OF THE VERMIFORM APPENDIX.

Arthur W. Elting, M. D., of Albany, New York (*Annals of Surgery*), reports three cases of this disease. The extensive literature on diseases of the appendix contains very little on this subject. Of the few cases reported, some are doubtful. The literature has been carefully searched and forty cases found. Only twenty of these, however, carry sufficient proof. The author adds to these, three cases examined by himself and draws his deductions from the twenty-three cases. The ages of seventeen were reported. Nine of these were under thirty years. Twenty-four per cent were under twenty years of age, the youngest being a child of twelve years. The history of the development and decline of the appendix should make it a favorable location for primary carcinoma. The diagnosis of primary carcinoma of the appendix is rarely possible except in well-developed cases, which will present the same symptoms as chronic relapsing appendicitis. In order to determine the frequency of this disease, every appendix removed should be carefully examined. C. G. D.

LIST OF SURGICAL OPERATIONS.

F. D. **Shepard**, of Aintab, Turkey (*American Medicine*), shows what can be accomplished by strict adherence to the essentials of modern surgery. This list of operations covers a wide range of surgery, in all, seven hundred fifteen cases. Three hundred fifty-six are operations on the eye. The others of importance are as follows: Fifteen urinary calculi, fourteen genitourinary, fifty rectal, nineteen laparotomies, twenty-six plastic operations, and twenty-one tumors. The remainder cover the field of surgery from simple tenotomy to amputation. A glance at the list will suffice to show that cases do not average the same as in general clinics in this country. For example, only one case of appendicitis is reported, two hydatids of the liver, nine suprapubic cystotomies, and seventy-one operations for hernia. The nose must be a surgical landmark in that country as eight restorations of that organ are given. The death rate for the entire list is but six. The author relies on boiling for sterilization, omitting nothing but the patient and the operator. The hands are cleansed with soap, water and alcohol. He is working alone, without skilled assistants and nurses, and most of modern hospital facilities are beyond his reach. C. G. D.

GYNECOLOGY.

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PROLAPSE AND INVERSION OF THE UTERUS.

E. **Funke** (*Centralblatt für Gynäkologie*, 1903, Number VI) reports an interesting case of acute inversion of the uterus with prolapse. The patient was twenty-seven years old and had had one child, the birth being accompanied by considerable postpartum hemorrhage due to atony of the uterus. During this pregnancy she suffered from sore throat and hoarseness, which did not entirely disappear after the delivery. During her second pregnancy the throat symptoms increased. Examination showed edematous swelling of the larynx and epiglottis and the appearances of laryngeal tuberculosis. The symptoms improved under treatment by menthol and tannin.

Funke was sent for hastily and upon his arrival found the patient breathing her last. Between her legs lay a sausage-shaped mass which further investigation showed to be the prolapsed inverted uterus, to which was attached the placenta. It was learned afterward from the midwife in attendance that the patient at the beginning of labor was short of breath and coughed badly. The child was born rapidly while the mother was having a severe attack of coughing. Finding a hard mass in the vagina the midwife sent for help but before the physician arrived the inverted uterus was forced out of the vagina, during another coughing fit. This accident was accompanied by a sharp hemorrhage and the woman died just as Funke entered the room.

The causes of inversion uteri accompanied by prolapse, according to Kaltenbach, are traction on the cord or placenta and straining or manual expression of the placenta. In this case the accident was clearly the result of straining, together with an adherent placenta, the uterus acting as does the intestine when intussusception occurs.

OBSTETRICS.

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FORMALIN INJECTION IN PUERPERAL SEPTICEMIA.

Barrows (*American Journal of Obstetrics,* Volume XLVII, Number III), in a paper read before the New York Obstetrical Society, cites a case of puerperal septicemia treated by intravenous injection of a one to five thousand formalin solution. At the time of confinement the patient's temperature was 104.3°, pulse 124, respiration 30. The fetus was dead, and fetus, membranes and placenta were badly decomposed. The uterus was irrigated, and later curetted. On the ninth day the patient was in a semicomatose condition, with rectal temperature 108°, pulse 160, and respirations very shallow and rapid. Blood cultures showed a pure growth of streptococcus. At 5 P. M., five hundred cubic centimeters of a one to five thousand formalin solution were injected into the median basilic vein. The temperature and pulse showed immediate improvement. The following morning the temperature was 101°, pulse 104. At 9 P. M., twenty-eight hours after injection, the temperature was 102.5°. The next morning the rectal temperaature was subnormal, pulse 86. The temperature rose to 103° and a second injection, seven hundred fifty cubic centimeters, was given in the opposite vein. The temperature fell to normal and the patient recovered.

On the day following the first formalin injection and subsequently cultures from the blood were negative. No disturbance of any kind followed the injection.

PEDIATRICS.

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THE TREATMENT OF INFANTILE CONVULSIONS.

Ada McMahon, M. D. (*New York Medical Journal,* March 14, 1903), says the treatment of infantile convulsions resolves itself into (1) the treatment of the convulsion, (2) the removal of the exciting cause or causes in the given case, (3) the prevention of any known cause again acting as an irritant, and (4) the strengthening of the infant's unstable nervous system.

Should the diagnosis point to a direct irritation of the cells as in certain cerebral and spinal diseases, that condition will demand the bromides, effective elimination, and a room kept darkened, well ventilated and quiet, together with proper nouishment. Surgical interference may be needed. But should one of the reflex irritations be at fault such as from improper food, foreign bodies in the nose and ears, adherent prepuce or clitoris, or dentition, these should be corrected as soon as possible. The pyrexia in itself may serve as an irritation in prolonging or causing the spasm. The cold or ice pack with ice to the head and at times heat to the feet will be required. The pack warm or cold, will (1) reduce the pyrexia, (2) increase peripheral circulation, (3) lessen the rigidity, and (4) assist in elimination, and will also permit, without much disturbance to the child, of the giving of stomach or intestinal lavage. If stimulation is required, stimulate freely. Whisky, nitroglycerin, strychnin, adrenalin chlorid or ether given hypodermicly, will often tide over some of the most dangerous cases. Oxygen is of much value in oncoming asphyxia. Saline infusions, when there has been a large drain from the system, as in cholera infantum, will be beneficial.

Should an acute toxemia exist, the above mentioned methods are no bar to the treatment of the acute exanthemata, pneumonia, scarlatina, secondary meningitis, and the acute infectious intestinal diseases.

While the infant is still in the pack, should an ileocolitis exist, copious enemata can be given; if there is much tympany add to them a carminative, especially milk of asafetida, or keep in place the rectal tube. While the child is in the pack, watch the temperature closely. Remove the pack when it falls to 101° Fahrenheit (rectal), again applying it when indicated.

At times the toxemia is one of low degree, as in malnutrition and rickets. Here the disturance shows itself in certain groups of the muscles as infantile vertigo, carpopedal spasms, and laryngismus stridulus. By proper feeding and good hygienic surroundings, with or without some of the motor depressants, we have some means of relief.

Infantile epilepsy must be distinguished by the history of previous attacks, no known exciting cause, and a predisposing heredity. Inasmuch as each attack makes more or less inroad upon the stability of a normally unstable condition of the nervous system, at that time of life, and the convulsion is rarely the cause of death in itself, the prevention of convulsions becomes of the utmost importance. The prevention also permits of a more normal growth in stability of the nervous system. All predisposing conditions, then, should be removed. To bring about these results give to the infant: (1) Proper food at stated intervals, (2) proper hygienic surroundings, but (3) remove physical defects or abnormalities (adherent prepuce or clitoris, foreign bodies in the ears or nose, and adenoid growths in the pharynx), (4) eliminate stress, (5) prevent birth asphyxias and apoplexies when possible, and (6) prevent by law, an inheritance to children of a syphilitic, alcoholic, idiotic, hysteric or epileptic predisposition.

OPHTHALMOLOGY.

By WALTER ROBERT PARKER, B. S., M. D., DETROIT, MICHIGAN.
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SUBSEQUENT HISTORY OF A CASE OF SYMPATHECTOMY

DOCTOR HOWARD F. HANSELL (*Ophthalmic Record*, January, 1903) reports the subsequent history of a case of sympathectomy for chronic inflammatory glaucoma. The interesting and instructive feature of the case was that, notwithstanding the removal of the superior cervical ganglion on each side, the patient, a young man, had subsequently at least two attacks of acute glaucoma attended with intense pain and complete blindness. Recovery of vision equal to that before the attacks followed the use of eserin and of paracentesis of the cornea.

Doctor Hansell quoted the conclusions of several writers who had gathered the published accounts of results of the operation, but he could not assent to the reasons or arguments that had been brought forward for justifying the excision of the ganglion. The evidence of this one case in which the operation not only did not restore any part of the lost vision, but failed to prevent acute onsets of glaucoma, was a stronger argument against the procedure than all the reports made within a few weeks after operation, claiming that the operation was beneficial. He advocated no departure from the tried remedies, eserin and iridectomy, in hopeful cases, and preferred enucleation for painful, sightless, glaucomatous eyes beyond the reach of eserin and iridectomy.

MARANTIC AMBLYOPIA AND ASTHENOPIA.

BAHRINGER (*Wiener Medicinische Wochenschrift*). The author defines senile amblyopia and distinguishes it from marantic amblyopia and asthenopia, and he then describes the disease which he styles marantic amblyopia and asthenopia.

The cases which he wishes to class under this name show a normal fundus. The vision is decreased to one-third or even to one-tenth. One cannot find in these cases any affection of the macula lutea, the so-called Hutchinson's disease, which is so often to be seen in senile amblyopia. Toxic amblyopia can also be excluded in these cases, not only from the history, but also because central scotoma and color blindness are absent. The picture of this disease is characteristic on account of the absence of any pathologic changes in the interior of the eye and on account of the decreased power of vision, with no limitation of sight. In other cases the field of vision is normal or only slightly changed from the normal, but the patient complains that the sight is indistinct and poor. He can, as a rule, see quite well at a distance, but his near vision is defective and causes asthenopic complaints. Convex glasses do not, as a rule, improve the sight, and if improvement does take place it is only slight and temporary. The history of the patient always shows that we have to deal with a very sick person. In nearly all of these cases one can note either a well developed senile marasmus, or marked arteriosclerosis, or nephritis, or cancer cachexia.

As a rule, this condition shows that the power of vitality is very much diminished, and patients usually die from some intercurrent disease within six months.

LARYNGOLOGY.

By WILLIS SIDNEY ANDERSON, M. D., Detroit, Michigan.
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A HYPERTROPHIED TONSIL WITH A REPORT OF THE MORBID HISTOLOGY OF THE SO-CALLED SUBMERGED TONSIL.

Ellet O. Sisson (*The Laryngoscope,* March, 1903) gives the result of the microscopic examination of a number of tonsils. The pathologic histology of the submerged form does not differ markedly from the other forms of tonsillar hypertrophy, only that the "hard" fibrous predominates over the "soft" adenoid variety, and there is even greater increase of connective tissue. Surgical treatment is the only method advocated. The different methods cited are the use of the tonsillotome, the cold wire, or the galvanocautery snare, and the curved, blunt, pointed bistoury. Mention is also made of ignipuncture and electrolysis in certain cases.

THE DIAGNOSIS OF CARCINOMA OF THE LARYNX.

Otto T. Freer (*Journal of the American Medical Association,* February 7, 1903) says: It is unfortunately true that carcinoma of the larynx is not discovered until nothing but total laryngectomy offers the patient a chance for existence. Men are more frequently affected than women. Long continued hoarseness should arouse suspicion of its existence. Pain occurs in the later stages and serves to differentiate it from foreign growths. The pain occurs more particularly during swallowing and darts up to the ears. The dyspnea may exist for a long time without becoming dangerous. Carcinoma originates from the vocal cords more often than any other point in the larynx. The different types are described and illustrated, and the differential diagnosis between tuberculosis and syphilis is given. In tuberculosis we have the pale, edematous, symmetricly-swollen epiglottis and aryteno-epiglottic folds. In addition we usually find coexisting lung disease. The tertiary syphilitic lesions may simulate carcinoma very closely. While laryngeal tubercolsis is common, tertiary laryngeal syphilis is rare. A history of syphilis and the results of antisyphilitic treatment are important helps in the diagnosis. In later stages of carcinoma we have the ulceration, the perichondritis and the lymphatic involvement.

The article is a good summary of our knowledge on the subject, and again calls attention to the necessity of an early diagnosis, and to the importance of separating tuberculosis and syphilis from carcinoma.

DERMATOLOGY.

By WILLIAM FLEMING BREAKEY, M. D., Ann Arbor, Michigan.
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LUPUS ERYTHEMATOSUS.

Warde (*British Journal of Dermatology*) summarizes a study of thirty cases. His conclusions are as follows:

(1) That lupus erythematosus is not a distinct pathologic entity, but merely one instance of a process frequently observed in a class of individuals, atrophic rhinitis being another example of a similar process.

(2) That the essential, and in exceptional cases, the only, symptom is a pernicious edema, persistent and apt to result in degenerative and atrophic changes.

(3) That this edema is due to a paralysis and dilatation of the small blood-vessels leading to their degeneration and destruction, together with the granulation tissue that has formed around them in the effort to repair damage.

(4) That this edema and vascular degeneration depends indirectly on a feeble circulation and consequent poor nutrition of the vessel walls, on strain of vessels by flushing, or on anatomic position in that the skin is thinly stretched over unyielding parts; and directly on exposure to heat and cold, injuries such as burns, and on the presence in the skin of various toxins due to poisons, certain fevers, microbic activity, and to unknown causes.

(5) That the vascular degeneration and atrophy may be directly induced by certain superficial types of lupus vulgaris, and be predisposed to, by a tubercular inheritance or by acquired tuberculosis, but that the lesions essential to the disease are in no sense tubercular.

THERAPEUTICS.

BY DELOS LEONARD PARKER, PH. B., M. D., DETROIT, MICHIGAN.
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SOME CLINICAL INDICATIONS FOR THE USE OF THE ELECTRIC-LIGHT BATH.

DOCTOR T. D. CROTHERS, of Hartford, Connecticut (*The Journal of Advanced Therapeutics,* January, 1903), begins an article on the above named subject with the remark that the use of the electric-light bath as a sudorific and tonic, or remedy for the restoration of deranged metabolism, is practicly new in therapeutics. In his opinion the sudorific effect produced by electric light is superior to that produced by hot air both as to rapidity of action and duration of effect.

Doctor Crothers has had considerable experience with this agent. The patients treated by him, however, have been those suffering from the effects of spirit and drug-taking. These, like all of their class, suffered from various insanities, along with other disorders among which may be mentioned sclerotic conditions of the heart, liver, kidney and blood-vessels—particularly of the smaller arterioles. With these pathologic changes there were also vasomotor paralyses, muscle paralyses, anemia and neurasthenia.

In treating these cases Doctor Crothers has employed the electric-light bath for the past year or more and given during this period from thirty to fifty baths each week. The bath, as employed by him, consists of a room five feet on a side and six feet high. This is lined with tin on which ninety incandescent lights of sixteen candle power each are placed. In using this bath the patient sits in a chair placed in the center of the room. The whole body is exposed to the light with the exception of the head, which is covered with a napkin. The object in covering the head is to avoid a drying effect upon the hair, which is found to occur when the head is left uncovered. At the beginning of the bath the temperature of the room usually is about 70° Fahrenheit. In the course of ten or fifteen minutes it is raised to 125° or 130° Fahrenheit. Perspiration is found to begin after the patient has been in the room from five to eight minutes, and to become very profuse in from ten to fifteen minutes. The duration of the bath is about ten minutes. For the purpose of aiding perspiration large quantities of water are drunk by the patient before entering the bath. Massage with hot or cold showers follows the baths.

The results obtained are as follows: When fever is present the temperature usually falls a degree or two and does not rise again for hours or days, or in some cases not at all. When the temperature is subnormal at the beginning of the bath, there generally ensues a rise of a degree or two. This behavior on the part of the temperature is taken by Doctor Crothers to be due to the removal of toxemias by the perspiration.

Results other than those noted may also be produced. In tobacco heart, so-called, the tachycardia and arrhythmia are both corrected to a great extent, and even in cases of irregularity of heart action due to organic disease improvement is shown by greater regularity and steadiness of action.

The insomnia usual in cases of the kind under consideration is generally overcome by this treatment. Other conditions found to be improved by it are neuritis, gastritis, myalgia, nervous irritation, arteriosclerosis and sclerosis of the liver and kidneys. There is also noted a marked tendency in those taking the baths to lose their appetites for spirits.

In closing his paper Doctor Crothers says: "I am. encouraged to believe that with new methods of application and a wider and more accurate study, its value (use of the light) as a therapeutic agent will come into great prominence."

PATHOLOGY.

BY ALDRED SCOTT WARTHIN, PH. D., M. D., ANN ARBOR, MICHIGAN.
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ENZYMES IN TUMORS.

B. H. BUXTON (*Journal of Medical Research*, May, 1903). The object of Buxton's work was to determine if possible the nature of any enzymes present in malignant tumors; if such enzymes are constantly present: and if so, are they in any way different from those found in normal tissues? Such enzymes would be intracellular as opposed to the extracellular enzymes of the digestive tract. The latter have long been known and closely studied, but only within recent years has it been recognized that from animal cells, even those not concerned in the manufacture of extracellular enzymes, there can be extracted by maceration in water certain soluble principles capable of exerting various ferment actions altogether apart from the life of the cell. By grinding yeast cells to powder and pressing out the juice Buchner was able to extract zymase, the principle which converts glucose into alcohol and carbonic dioxid. Experiments of this kind with animal cells are being systematicly carried on, but it remains an open question whether any enzymes can be obtained by mechanic methods, which cannot be extracted by simple maceration.

The subject of intracellular ferments for normal tissues has been pretty thoroughly worked over recently, but very little attention has been given to this subject so far as pathologic tissues are concerned. Petry found that carcinoma tissue very readily undergoes autolysis with increase of noncoagulable proteids, and fomation of leucin, tyrosin, hexon and purin bases at the expense of the more complex proteids coagulable by heat. The autolysis is due to the presence of a proteolytic ferment, the products corresponding to those found by Salkowski and others in autolysis of normal organs.

Emerson, in a study of the influence of carcinoma of the stomach on digestion, comes to the conclusion that in carcinomatous tissue there exist proteolytic ferments which carry the digestion beyond the albumose and peptone stages. Such ferments dissolved from the ulcerated surface of carcinoma of the stomach accelerate the action of pepsin, and their ultimate products, diamido bodies, et cetera, enter into loose combination with hydrochloric acid, thus accounting for the absence of free hydrochloric acid in such cases. This work, however, needs confirmation.

Buxton examined thirty tumors, obtained from various parts of the body, by chopping the tumor tissue to a fine pulp, adding enough of fifty per cent glycerin in water to bring it to the consistence of a soft paste, and sterilizing. Tests were then made for *proteolytic ferments, amylase, lipase* and *oxidases.* The experiments with *proteolytic enzymes* afforded uncertain results. As a rule the softer and more cellular tumors contained more than the denser varieties, but this was not always the case. It seems probable that the proteolytic enzyme of tumors is allied to *erepsin. Amylase* was found in every case, and it is significant to find it so constantly present in tumor tissue. The amount present did not seem to vary directly with the malignancy of the tumor. The very malignant tumors of the liver contained comparatively little. This again seems significant, since the adult liver contains glycogen, the embryonic liver none. In other tissues the reverse obtains except in muscles which do not enter into the question of malignant tumors. The tests for *lipase* gave results which if not indicative of the presence of true *lipase* show that there is something in the tumors which can rapidly convert butyrin into glycerin and butyric acid, and this power is destroyed on boiling. The experiments for *oxidases* led to no particular results, but as so little is known of these ferments and the necessary conditions for their action, this was to be expected. Since the idea of suboxidation as a cause of tumor formation seems to be gaining ground, it is necessary to furnish an experimental basis for the theory. An extended study of the oxidizing ferments found in tumors, and a comparison of them with those of normal tissues may help to confirm or to overthrow the hypothesis.

EDITORIAL COMMENT.

RABIES.

THE unusual prevalence of rabies in this section during the last few months has given this subject some prominence in the public mind. One practician of veterinary medicine has declared that more than fifty cases of this disease in dogs have lately come under his notice. A skeptic view as to its true hydrophobic character has been expressed, but the fact of two or three fatal cases recently observed in man has been sufficient to arouse considerable interest in the matter.

Notwithstanding the antiquity of hydrophobia its definite cause has not yet been ascertained. That it is essentially a disease of the nervous system has been demonstrated. The cause resides in the brain, spinal cord and nerves, not in the blood, liver, or spleen. It is also present in the saliva of the rabid animal and it is chiefly through this agency that it is spread.

The disease having been clinicly observed almost exclusively in man and the dog it is not so well known that other animals are also susceptible to it. Among these are the domestic cat, sheep, cattle, hogs and goat. Contrary to a general impression too the disease occurs in all seasons and in every section of the globe.

It is admitted that there is no cure for rabies. It is possible though to limit its spread. Rabid animals should be killed. Other animals bitten by rabid animals should be confined and all dogs running at large should be muzzled for a period of three months. It has been found possible to safely disinfect a wound made by the bite of a rabid animal in ninety per cent of the cases if done within the first twenty-four hours. In practice this precaution has been observed to be advisable even within seventy-two hours. For this purpose thorough saturation of the injured tissues with fuming nitric acid is considered most efficient. Further than this vaccination of the infected person or animal after the manner of Pasteur is effective in preventing the disease.

In this connection it is of great interest to know that the Pasteur method of treatment for rabies can be obtained in this state. The Regents of the University have instituted a laboratory for this purpose in the Hygienic Laboratory, where residents of Michigan will be treated free of charge. The profession will gladly welcome this institution as through it they will feel more securely armed against this dread malady.

CONTEMPORARY.

IMMUNITY.

[BOSTON MEDICAL AND SURGICAL JOURNAL.]

THERE is perhaps no question relating to medicine which has received so much attention from investigators during the past ten years, and which is so pregnant with possibilities for the future, as the subject of immunity. Its importance would seem to be sufficiently evident if the term were applied in its narrower sense, that is to say, in its relation to infectious diseases; but even a short excursion into the realm of recent literature shows that the term "immunity" as now used is a broad one, which cannot be circumscribed by considerations affecting bacteria and their products alone, but must be enlarged to include animal and vegetable cells of very varying character and origin. To the already well-known types of immunity seen after diphtheria, tetanus, typhoid and cholera, must now be added other varieties of immunity such as those produced by the action of red corpuscles, white corpuscles, spermatozoa, et cetera; for all these cells bacterial or otherwise, when introduced in a proper manner into susceptible animals, produce tissue changes through which the animals acquire an increased resistance to those cells or their products, and it is the study of just these phenomena of increased resistance and its causes which offers such a bright outlook for progress in a number of directions, and especially in that of serumtherapy.

Although broad fundations for this study had been laid already by such men as Behring, Roux and Pfeiffer, at present the most important names associated with this question are those of Ehrlich in Germany and Bordet in France, and of these two, Ehrlich undoubtedly holds the higher place. It is to Ehrlich that we owe the now well-known "side-chain" theory, which, though not perfect, furnishes the best working hypothesis yet discovered for the explanation of immunity, natural and acquired. According to this theory the process of intoxication such as is seen in diphtheria, for instance, is not in its essence pathologic, but is, in large degree, analogous to physiologic processes as seen in the assimilation of food. That is to say, the diphtheria toxin is poisonous because there are certain body cells which take it up; which have certain "receptors" which attract and unite with the toxin just as the cell attracts and assimilates from the blood certain food molecules. On the other hand, if a certain animal is resistant to a certain toxin, it is because the cells of that animal possess no receptors capable of uniting with that toxin. When, however, the toxin becomes once anchored to the cell the analogy to physiologic processes, just mentioned, ceases, for in this instance, the toxic molecule causes an injury to the cell, that is, an intoxication. This injury the cell, if not too severely damaged, hastens to repair, but, according to the general law of repair, does not content itself with a simple *restitutio ad integrum*, but reproduces in excess that very portion of the cell which in the first instance united with the toxin. This excess is thrown off into the blood current, and there, by its continued affinity for the poison, acts as antitoxin. By the immunization of animals with gradually increasing amounts of toxin, we get finally the production of these cell receptors or antitoxin in great excess, and it is by these newly formed cell constituents, now free in the blood, that the toxin in diphtheria is neutralized and kept from its injurious action upon the body cells.

The probelm, as thus outlined, is the one seen in diphtheria and tetanus, and is comparatively simple. When we come to the consideration of typhoid and cholera, however, the question becomes much more involved. Pfeiffer in all his monumental work upon typhoid and cholera immunity could not produce a true antitoxin for these diseases. His sera were of the bacteriolytic variety, that is, they could dissolve, under proper conditions, the bacterial cell, but could not neutralize its toxic product.

It was at this point that the studies upon hemolysis and allied processes began, and as hemolysis and bacteriolysis follow practicly the same laws, the two processes may be considered at the same time.

In the first place we soon find that, in their relation to the "side-chain" theory, hemolysis and bacteriolysis are subject to conditions much more complicated than those seen in intoxications of diphtheria and tetanus. To be sure we have to do still with receptors and their indefinite multiplication as the result of inoculations with the especial variety of cell, but, whereas the receptor (or antitoxin) in diphtheria was of a simple variety known as a "uniceptor," with but a single bond of affinity, in bacteriolysis the specific body obtained as the result of immunization is an "amboceptor," with two bonds of affinity, one for the special cell and the other for a second substance, now spoken of for the first time, and known as the complement. This complement is a nonspecific body present in nearly all normal sera, and resembles in nature the ferments. It is very unstable, is destroyed at 58° centigrade, and disappears from a serum spontaneously with considerable rapidity. It thus differs markedly from the specific immune body or amboceptor, which is stable, resists heat (58° centigrade), and can be preserved unchanged for considerable lengths of time.

Now, for the destruction of the special cell, both the immune body (amboceptor) and complement are absolutely essential, the amboceptor acting as a connecting link, through which alone the complement can exercise its destructive power upon the cell. Neither substance can act in the absence of the other. That this is a fact of the utmost importance can be seen easily when we learn that, in the process of immunization (of a horse against typhoid for instance), it is the immune element alone which is increased to any extent. The amount of complement remains practicly unchanged. The probable cause for the failure of serumtherapy in this class of diseases is thus apparent. We have supplied the patient with the immune element probably in excess, but have achieved no convincing results because of lack of complement. The moral is obvious.

It seems, therefore, almost certain that in natural as well as acquired resistance to disease these complements, acting through natural or acquired amboceptors, are the defensive agents, and in support of this view may be mentioned the experiments of Longcope on terminal infections; Abbott, on the influence of alcoholic poisoning on susceptibility to infectious disease; and Moro, on the sera of breast-fed and bottle-fed infants. Terminal infections, alcoholic poisoning and bottle-feeding were all associated with marked decrease in the complements of the blood. These experiments suggest, immediately, of course, an explanation for the high mortality of alcoholics in pneumonia, for instance, and that of artificially fed infants as compared with the breast-fed. The field for investigation in this line is really unlimited. For instance, why do certain families succumb to tuberculosis? Is there not a lack of complements? Are the complements increased by outdoor life? Was there not something good in that treatment of tuberculosis in which patients drank fresh blood at the slaughterhouses?

Another line of inquiry would have in view a serum antagonistic to cellular growths of malignant types,—cancer and sarcoma. Such sera have been produced by injecting animals with the proper cells, but the results of treatment are as yet discordant.

Finally, the far-reaching studies in hemolysis cannot but throw much light on the subject of the severe anemias, the causes of which have been up to the present far from established.

That the study of these subjects is most promising is shown furthermore by the large number of investigators engaged in it. All the world is represented in the work, and we may look with confidence to very important results in the near future.

MEDICAL NEWS.

THE PASSING OF A PIONEER PHYSICIAN.

Edward W. Jenks, of Detroit, a gynecologits of national repute, died last month while en route from Mexico, where he had been sojourning on account of ill health. The doctor was born in Victor, New York, and received his preparatory education at Ontario, Indiana, where his father founded a collegiate institution in 1843. Nine years later he matriculated in the medical department of the University of New York, but failing health compelled him to discontinue study. Subsequently he became a student at the Castleton Medical College, where the degree of Doctor of Medicine was received by him in 1855. In 1864, after obtaining an aduendum degree from the Bellevue Hospital Medical College, he located in Detroit and soon became prominently identified with medical progress in this city. In 1868 he was instrumental in founding the Detroit Medical College, and was chosen president of the corporation and professor of obstetrics and diseases of women in the faculty. He also occupied a similar chair in the faculty of Bowdoin Medical College, beginning his lectures in the latter school at the close of the term in the former, but owing to the arduous labor involved he resigned the professorship in this school in 1875. For many years he was gynecologic surgeon to Saint Luke's and Saint Mary's Hospitals, consulting surgeon to the Women's Hospital, and physician to Harper Hospital from its establishment to 1872, when he resigned. He filled the position of chief surgeon to the Michigan Central Railroad Company for several years, and that of president of the Michigan State Medical Society (1873) and the Detroit Academy of Medicine. He was an honorary member of many American and foreign societies, and the author of numerous papers on medical topics, besides being associate editor of the *Detroit Review of Medicine* for four years and contributor to several medical works, notably Pepper's "System of Medicine." The degree of LL.D. was conferred upon him by Albion college in 1879, in which year he was also honored by election to the professorship of medical and surgical diseases of women and clinic gynecology in the Chicago Medical College, but owing to impairment of health he severed his collegiate connection in 1882 and two years later returned to Detroit to reside. Doctor Jenks was twice married and leaves two children—Miss Martha R. Jenks and Doctor Nathan Jenks.

MINOR INTELLIGENCE.

A PATIENT was presented, at a recent meeting of the St. Louis Medical Society of City Hospital Alumni, who had recovered from a gunshot wound of the heart.

A NEW filtration plant, the cost of which will be defrayed by Mr. Andrew Carnegie, is to be erected at Cornell University. Estimate places the cost of the plant at $150,000.

TEACHERS in the Chicago schools, who are suspected of having tuberculosis, will be required, by the school board of that city, to submit to a medical examination before continuing their labors.

THE new medical buildings which are to be erected at Harvard University will occupy a twenty-six-acre lot and will cost about $2,000,000, one-half of which amount has been donated by J. Pierpont Morgan.

THROUGH the instrumentality of Doctor Peypers, the editor of *Janus*, a society for the study of the history of medicine, has been organized in Holland. The meetings are well attended and much interest is maifested.

STATISTICS in the United States show that tuberculosis proves more fatal to the negro than to the white, and also that the offspring of foreign-born people are more susceptible to the disease than those born of American parents.

DOCTOR NEWTON M. SHAFFER, a New York orthopedic specialist, estimates that there are between forty and fifty thousand crippled children in that city, eighty-five per cent of whom could be cured or improved to an extent that would make them self-sustaining by timely surgical intervention.

IMMUNIZATION against the plague in India has been inaugurated on a wholesale plan. The government of Punjab has given an order to the Bombay laboratory to supply daily fifty thousand doses of anti-plague serum, and the physicians of Punjab calculate that seven hundred thousand inhabitants can be rendered immune within five months.

HEALTH day is an innovation which the legislature of Utah will consider. A bill is before that body which contemplates making the first Monday of October a legal holiday devoted to Hygeia. Under the tenets of the measure all houses, public and private, must be cleaned on that day. A fifty-dollar fine will be imposed as a penalty for negligence.

(L.): Chopped broiled beef; coffee and milk; pickles; dextrosed whole wheat and milk.

(D.): Three soft-boiled eggs; cup of new milk.

January 4.—(U.): Casts and some catarrh. Condition probably due to the yolks.

(B.): Chopped corned beef; coffee; pickles; tabasco sauce.

(L.): Chopped beef; coffee; water and milk.

(D.): Hamburg steak; English breakfast tea; bread and butter; French fried potatoes.

January 5.—(U.): Albumin.

(B.): Rump steak; coffee and cream; fried potatoes; bread and butter.

(L.): Oyster roast; mince pie; water.

(D.): Consumme soup; bread and butter; water.

January 6.—(U.): Normal.

(B.): Rump steak; fried potatoes; butter; coffee and cream; milk.

(L. and D.): Fried soft clams; mya arenaria; bread and water.

January 7.—(U.): Normal.

(B.): Sirloin steak; fried potatoes; coffee and milk; dry toast.

(L. and D.): Oysters stewed in milk; crackers; lemon; nuts.

January 8.—(U.): Normal to nitric acid.

(B.): Coffee and milk; graham bread; boiled eggs.

(L.): New England boiled dinner; water. This made albumin.

(D.): Sirloin steak; tea; fried potatoes; butter; rolls.

January 9.—(U.): Albumin.

(B.): Sirloin steak; coffee and milk: fried potatoes; Boston brown bread; butter.

(L.): Ditto, save coffee.

(D.): Raw eggs; cream; oysters; crackers.

January 10.—(U.): Slight albumin; two kidney casts.

(B.): Coffee and cream; sirloin steak; fried potatoes; Boston brown bread; oysters stewed with cream.

(L.): Same as breakfast save cocoa for coffee.

(D.): Four whites of eggs with brandy and cream.

January 11.—(U.): Normal.

(B.): Sirloin steak; coffee and cream; fried potatoes; Boston brown bread.

(L.): Oysters, plain roast; eggs and cream.

(D.): Escaloped oysters; entire wheat bread; water; Ceylon tea; taste of baked beans; Hamburg steak; boiled potatoes; cheese.

January 12.—(U.): Albumin and casts abundant; catarrh. Too great variety of food.

(B.): Veal steak; coffee and cream; butter; Lyonnaise potatoes.

(L.): Pork chine, roast; apple sauce; mince pie; cheese; Brazil nuts and English walnuts.

(D.): Oyster roast; cream; water.

January 13.—(U.): Normal.

(B.): Sirloin steak; coffee; Boston brown bread; French fried potatoes; water.

(L.): Sirloin steak; coffee and milk; fried potatoes; Boston brown bread; mince pie; cheese.

(D.): Four whites of eggs, brandy and cream; plain roast oysters.

January 14.—(U.): Normal.

(B.): Sirloin steak; coffee and cream; fried potatoes; Boston brown bread; butter; water.

(L.): Hamburg steak with onions; coffee; water; fried potatoes.

(D.): Oyster roast; orange; cheese and crackers; water; nuts and raisins.

January 15.—(U.): Slight bile.

(B.): Hamburg steak; two whites of eggs; boiled potatoes; coffee and cream; rolls.

(L.): Beef stew; water.

(D.): Oysters, plain roast; mince pie; bowl of custard; orange; dates; cheese.

January 16.—(U.): Bile; casts; filamentous catarrh. Probably due to the yolks in custard.

(B.): Oyster stew; crackers; coffee and cream; orange; cheese.

(L.): Sirloin steak; coffee and cream; fried potatoes; Boston brown bread; butter.

(D.): Oysters, plain roast; cream; cheese; crackers; orange; dates; molasses.

January 17.—(U.): Normal.

(B.): Sirloin steak; coffee and cream; Boston brown bread; fried potatoes; butter.

(L.): Fish chowder; baked fish, stuffed; water; butter.

(D.): Oysters, plain roast; nuts; cheese; crackers; dates; one orange.

January 18.—(U.): Bile; catarrh; casts, true and false. Probably lunch was at fault.

(B.): Sirloin steak; coffee; fried potatoes; Boston brown bread; mustard.

(L.): Boiled shrimp; lemon; coffee; oyster crackers; string beans.

(D.): Corned beef; potato salad; bread and butter; water.

January 19.—(U.): Casts, both kinds; fatty epithelia; catarrh. The shrimp lunch was responsible.

(B.): Hamburg steak; coffee and cream; potato; bread.

(L.): Roast beef; squash; potato; entire wheat flour bread; coffee; distilled water.

(D.): Oysters, plain roast; crackers; Boston brown bread; Vermont honey: water and cream.

January 20.—(U.): Casts, both kinds; fatty epithelia; catarrh—much less than on the 19th.

(B.): Sirloin steak; fried potatoes; Boston brown bread; coffee and milk; mustard.

(L.): Hamburg steak; fried raw potatoes; Boston brown bread; tea and milk.

(D.): Oysters, plain roast; cream; cheese; Boston brown bread; water.

January 21.—(U.): Almost normal.

(B.): Cold corned beef; coffee; Boston brown bread; butter; water.

(L.): Sirloin steak; tea; fried potatoes; butter; Boston brown bread; water.

(D): Lyonnaise tripe and mashed potato; cheese; water.

January 22.—(U.): Normal, save slight bile.

(B.): Rump steak; one-half pig's foot; coffee and cream; water; rolls; butter.

(L.): Sirloin steak; fried potatoes; coffee.

(D.): New England boiled dinner; orange; water.

January 23.—(U): Slight bile; one fatty epithelium; catarrh.

(B.): Banana; Pettijohn's wheat; coffee and cream; baked potato; graham rolls; butter.

(L.): Roast mutton; mince pie; coffee; cheese; mashed potato.

(D): Oysters, plain roast; cream; graham bread; honey; orange.

January 24.—(U.): Yellowed by bile.

(B.): Roasted apple; coffee and cream; beefsteak; corn bread.

(L.): White of egg, brandy and cream; corned beef; roast beef, cold; coffee and cream; baked potato; banana pudding.

(D.): Clam chowder; water; cold ham; boiled turnip; potato; string beans; mince pie; tea and cream.

January 25.—(U.): Casts, both kinds, but few. Too much vegetable food.

(B.): Banana; coffee; beefsteak; baked cream of wheat; butter.

(L.): Sirloin steak; fried potatoes; coffee; Boston brown bread; crullers; cheese.

(D.): Oysters, plain roast; cream; crackers; cheese; ginger bread; honey; water; white of egg; dates.

January 26.—(U.): Normal.

(B.): Ham and eggs; coffee; Boston brown bread; butter.

(L.): Tomato soup; turkey, dark meat; Lima beans; cranberry sauce; water; tea; cheese; mince pie.

(D.): Cold roast pork; grape jelly; oyster stew; baked potato; biscuit; butter; water; cheese; dates.

January 27.—(U.): Some false casts—one long wire coiled specimen.

(B.): Two bananas; cream of wheat; beefsteak; baked potato; corn bread; butter.

(L.): Hamburg steak; coffee and cream; fried potatoes; Boston brown bread; butter.

(D.): Roast mutton; coffee; baked potato; peas; turnip; dates; three whites of eggs.

January 28.—(U.): Slight albumin.

N. B.—No sugar used in drinks in all these studies.

(B.): Mutton chops; coffee and cream; baked potato; corn and wheat bread; butter.

(L.): Sirloin steak; fried potatoes; Boston brown bread; butter.

(D.): Oysters, plain roast; crackers; cheese; cream and water.

January 29.—(U.): Normal.

(B.): California prunes; coffee and cream; tripe; egg; beefsteak; corn rolls.

(L.): Clam chowder; New England boiled dinner; butter; bread; dates.

(D.): Cranberry sauce; roast mutton; coffee and cream; potatoes; banana fritters; mince pie; cheese; dates; nuts.

January 30.—(U.): Normal. The New England dinner was borne this time.

(B.): Beefsteak; mackerel; coffee; potato.

(L.): Small sirloin; fried potatoes; coffee; Boston brown bread; butter.

(D.): Oysters, plain roast; crackers; water; cheese.

January 31.—(U.): Normal.

(B.): Beefsteak; codfish; coffee and cream; baked potatoes; corn bread; butter.

(L.): Same as January 30.

(D.): Same as January 30.

February 1.—(U.): Almost normal; very slight catarrh.

[TO BE CONTINUED.]

ADENOIDS.*

BY CALVIN R. ELWOOD, M. D., MENOMINEE, MICHIGAN.

IT is my pleasure to present for your consideration a condition so prevalent as to be thought unimportant by the laity and which I fear for the same reason receives far less attention than it deserves from the general practician, notwithstanding that its neglect frequently results in conditions incompatible with the comfort and disastrous to the development of the patient. Like suppurative otitis media, mouth-breathing is considered insignificant in children because so many are afflicted, and as comparatively few cases are followed by distressing sequelæ, the child is neglected.

The nose is more important to the human economy as an organ of respiration than as an organ of special sense, as is demonstrated by numerous bronchial. gastric, aural and systemic disorders which frequently result from continued interference with its function. Nasal respiration is embarrassed or suspended in consequence of intranasal obstruction, as deviation of the septum or hypertrophy of the turbinated body, by nasophyaryngeal obstruction as adenoids, and by hypertrophy of the faucial tonsil.

The nasopharynx contains in addition to the posterior nares and Eustachian orifices, the pharyngeal or Luska's tonsil, the function of which is to furnish a lubricant to the pharynx and the hypertrophy of which gives rise to the condition under discussion. The resulting masses vary greatly in their consistency and may be classified into two groups—the soft or gelatinous and the hard or fibrous types. In growths of the first class the connective tissue is of a succulent character, rich in young cells surrounding numerous masses of lymphoid tissue, which are usually soft and break down under the pressure of the finger. The other is a variety of smooth fibrous tumors, irregular in shape, very vascular, containing lymph cells, and of a follicular structure resembling the faucial tonsil. There are all degrees of gradation between these two types.

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* Read before the FOX RIVER VALLEY MEDICAL SOCIETY at its Marinette, Wisconsin, meeting.

Macroscopicly these masses vary greatly in situation, size and grouping. The most frequent situation is at the dome of the pharynx or upon its posterior wall, where they protrude as an inverted dome into the nasopharynx or present several more or less prominent masses protruding below the general mass like stalactites.

Adenoids are essentially a disease of childhood seen most frequently between the third and fourth years and often disappearing at puberty. Heredity is an important factor. Often several individuals of the same family are afflicted. Repeated attacks of acute nasopharyngitis also tend to hypertrophy of this lymphoid tissue. We have all observed the parted lips, the more or less expressionless face, noisy respiration and nasal intonation (as if the patient had a perpetual cold in his head) of this type of patients. The child often may appear defective mentally when his condition is due to impaired hearing and necessary mouth-breathing. There is often further history that the child snores loudly, if a babe it cannot nurse without frequently stopping to breathe, suffers from recurrent attacks of coryza, ear-ache, and impaired hearing or otorrhea—the result of pressure on the Eustachian orifices, obstruction in the postpharyngeal space having caused extention of the disease into the middle ear through interference with proper interchange of air in the tympanic cavity.

The diagnosis is readily made from the symptoms, digital examination and posterior rhinoscopy. The rhinoscopic mirror shows a rounded mass of a grayish red tinge hanging down and partly obstructing the view of the posterior nares, while digital examination conveys a sensation much like that experienced by passing the finger into a bundle of worms. Digital examination is condemned by many on account of its severity but with practice it can be done without very great discomfort. In cases wherein this is not practic, Semon, Meyers and others advocate injecting some aqueous solution into the nostril. If the postnasal space is clear the water will issue freely from the oppisite side, if obstructed it will escape into the mouth. The ear symptoms are among the most serious sequelæ of neglected adenoids. As a result of their interference with normal respiration, rarefaction of the intratympanic air gives rise to a condition of hyperemia of the mucous membrane lining the Eustachian tube and middle ear. The Eustachian orifice is closed mechanicly by the adenoid mass, the air of the middle ear rarefied, the drumhead retracted, and further changes in connection with the more delicate apparatus of the ear result in impairment of its function. In a very large number of cases, if this process is allowed to continue, it will lead to ankylosis of the ossicles and atrophy of the tympanic mucous membrane. In a smaller proportion, arising in the same manner from nasal stenosis and rarefaction of air in the middle ear, there originates a true catharrhal inflammation with hypersecretion. When there is catarrhal inflammation in a closed chamber, the process is frequently converted into one of suppuration. Why suppuration appears in one patient and not in another is a matter of conjecture. Frankenberg investigated one hundred fifty-eight deaf mutes and found fifty-nine per cent with adenoids filling the postnasal cavity.

In all my experience the case from which I received the best results with the least work was one of pronounced middle ear complications following postnasal obstruction:

A boy seven years of age was sent to his grandparents in Menominee that he might take advantage of our excellent schools. It was noticed that he was a persistent mouth-breather and snored so loudly at night that his rest was disturbed thereby; he seemed dull, inattentive and was quite deaf. His teacher reported that he did not do well in his school work. He could not hear my watch when it was brought in firm contact with the external ear. Examination showed the nasal cavities unobstructed but somewhat contracted, the arch of the palate high and the base narrow, the lips somewhat thickened, and a chronic follicular pharyngitis resulting from persistent mouth-breathing. Posterior rhinoscopy was quite difficult as the pharyngeal inflammation had made the throat very sensitive. Digital examination revealed a soft yielding mass in the vault of the pharynx which bled from manipulation. I believe I did not state in giving the symptomatology of the disease that the wall of the pharynx is firm and the mucous membrane not very vascular; therefore, hemorrhage after digital examination is very suggestive of the presence of adenoids.

Under chloroform anesthesia the mass was completely removed with a Gottstein curet. The patient recovered from the anesthetic just as the noon bell was being rung in a neighboring church tower. He asked what the noise meant and expressed surprise when he was told that the bell had been rung all the time he had been living there, as he could not hear it before. The improvement was rapid and hearing became normal. The patient has from that time enjoyed nasal respiration and in consequence has improved greatly in general health.

The mouth-breather frequently suffers from bronchitis or pharyngitis or from both, for he is obliged to breath air not warmed and moistened by passing over the extremely vascular membrane of the turbinated bodies as nature intended he should. Adenoids pressing upon the Eustachian orifices have a somewhat similar effect of mechanicly interferring with the function of the middle ear, that pressure on the venthole of a drum has upon the resonance of that instrument.

In addition there is interference with the renewal of the air within the tympanic cavity and the proper equalization of air pressure, producing thereby conditions which result in either chronic suppurative or nonsuppurative otitis media.

Another case of considerable interest was that of a child which during its six years of life had been very frail and nervous and gave abundant evidence of malnutrition. On two occasions I had been called to see her when suffering from a suppurative otitis. Audition was defective, and sleep disturbed, as nasal respiration was impossible and oral breathing resulted in such discomfort that she would frequently awaken. Although for certain nonmedical reasons it was unpleasant for me to do any surgery for this patient, I finally advised the removal of the hypertrophied faucial tonsils and adenoid vegetations. The result was almost as satisfactory as in the case above cited. The patient has had no recurrence of suppurative otitis and sleep is undisturbed; she no longer makes the distressing noise she formerly did while eating and is much better nourished.

These cases are but types of several which have occurred in my practice and have led me to believe that the removal of this obstruction is one of the most strongly indicated surgical procedures. I have had but one unsatisfactory result and that was in the case of a spoiled child of rather unreasonable parents. The growth was of the fibrous type almost identical with the faucial tonsil. The father insisting upon taking the child to his home in a distant town the second day after the operation, I was unable to watch the case and the growth recurred.

The treatment in these cases is essentially surgical, and to be satisfactory must be thorough. The use of powerful chemic astringents and caustics is mentioned only to be condemned, as it is always difficult and sometimes impossible to limit their effect, and should the Eustachian orifices be cauterized thereby, serious complications might develop.

Various means of removal have been employed, including the wire snare of Bosworth, the small ring curet operated through the nostril as advised by Meyer, of New York, the Loewenberg forceps and the Gottstein curet. Since the perfection of the two latter instruments, these are the only ones needed in the majority of cases. The forceps if carefully used are of great value, but in unskilled or careless hands may be harmful by tearing away a portion of the pharyngeal wall. To guard against this the patient should be profoundly anesthetized and the insertion of the instrument be guided by the fingers inserted into the pharyngeal vault. When the forceps are closed little traction should be made, but with a to-and-fro movement the mass grasped by them should be detached without doing further damage. If the forceps are pulled away after incorporating the mass the pharyngeal mucous membrane may be torn. Hemorrhage produced thereby is sometimes profuse.

As soon as possible a curet of suitable size should be inserted and the remainder of the growth detached, leaving a smooth, firm surface. In many cases it is not necessary to use anything more than a curet and in its use certain precautions must be taken. The growth is usually located either in the dome or on the posterior superior wall of the pharynx. When the curet is inserted this fact must be borne in mind and if the instrument is carried well forward it will grasp the mass, the greater portion of which is removed by the first sweep of the instrument. In subsequent manipulations firm pressure can be made, first to one side and then the other, thereby removing such particles as escape the first manipulation. Very frequently some of the adenoid mass remains after the operation is finished, small particles having been obscured by the hemorrhage. The result of thorough removal is shown by the smooth surface presented to the examining finger. As in hypertrophy of the faucial tonsil, the mass must be thoroughly removed to secure the best results. Very few investigators have found these vegetations growing upon the Eustachian orifices, the walls of which are so very firm and composed so largely of fibrous tissue that little opportunity is given for such formation. It is therefore unwise to curet too much to either side of the median line as serious traumatism may be produced.

The after treatment should be simple and not too vigorous. The majority of authorities object to what they consider officious over-treatment. Thorough and aseptic removal should put an end to the affliction. I am much less active in subsequent treatment of these cases than formerly and usually limit myself to the prescription of a mild astringent nebula for use once daily and the internal administration of some form of cod-liver oil as the strumous diathesis is frequently present.

It is needless to say that the results are not satisfactory when the condition is associated with hypertrophy of the faucial tonsil, as is true in fully twenty-five per cent of the cases, unless tonsillotomy is also done. This can usually be accomplished at the same sitting as the enlarged tonsils can quickly be severed with the tonsillotome, after which a wider field for operation is given.

Authorities hold various views on the question of anesthesia but the majority favor its use in some form. Bishop and several other equally competent authorities are strong advocates of the use of bromid of ethyl, others favor nitrous oxid, but the majority prefer chloroform or ether. Lautenbach, of Philadelphia, operates with a metal finger nail and without any anesthetic, but his advocacy of this method was severely criticised at the Columbus meeting of the American Medical Association as unsurgical and too severe.

As a general rule I believe anesthesia is to be preferred. Without it, unless the operator is constituted differently from most men, he cannot do justice to the patient when the child is struggling, for there is a tendency to work too hastily and leave the operation incomplete. With anesthesia the operator can place the patient where he wishes, make a careful examination, curet the growth thoroughly, and note the result until he is certain the mass has been entirely removed and that there is therefore no danger of recurrence. In my own practice I have usually employed chloroform, although I have occasionally taken advantage of a dentist being in an adjoining office and have used nitrous oxid. In this connection I would advocate the use of nitrous oxid in paracentesis of the membrana tympani in acute suppurative otitis media as it enables the operator to do far better work without torturing the patient. Notwithstanding the objection made by Bishop, that the operation under anesthesia with the patient in the dorsal position is dangerous, I have never observed any alarming symptoms either in my own practice or in that of some Chicago and Milwaukee friends whom I have had the pleasure of seeing operate. The patient is placed on his side immediately after the curetment, and dislodgment of the mass can be easily accomplished by blowing through the nostril with a Politzer air bag and thus, by thoroughly cleansing the seat of operation, lessen the hemorrhage. With the use of bromid of ethyl the work must be rapidly done and the danger from an incomplete operation is, I believe, greater than the danger incurred through more profound anesthesia.

There have been but two deaths reported from hemorrhage: one occurred in a hemophylic patient and the other in a debilitated girl who was operated on during catamenia. This is a period of danger to be avoided and many of us have had experiences wherein we regretted our carelessness in not inquiring about this function. With the exception of very unusual cases the operation can be said to be without danger. Neglect frequently causes irreparable impairment of hearing or a chronic catarrhal condition which in later life is difficult to relieve, and for these reasons is unconditionally indicated.

I believe we do ourselves and our patients an injustice in minimizing the importance of these operations. The practice of tearing out the larger nasal polypi with a hemostatic forceps or the greater portion of an adenoid mass with the finger nail, is too pervalent. The patient thinks nothing has been done, expects to pay accordingly, and when the growth returns is free with his criticism. These are rational surgical procedures deserving to be ranked as such, and when carefully and scientificly executed are capable of being of inestimable benefit to the growing child.

HISTORY OF THE WASHTENAW COUNTY (ANN ARBOR) MEDICAL SOCIETY.*

By WILLIAM F. BREAKEY, M.D., Ann Arbor, Michigan.
LECTURER ON DERMATOLOGY AND SYPHILOLOGY IN THE UNIVERSITY OF MICHIGAN.

In acknowledging the courtesy of the society in asking me to write its history to this time I can only record my opinion of my lack of qualification. I believe most important histories are written by those who live long after the events they relate; though the observations and records of contemporary observers must be relied on to furnish the data. In this way I may be able to give an account of some events that will enable future historians to continue the chronicle with less difficulty than I have had in finding material for this sketch.

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* Written on invitation from the Society before its reorganization.

It is just now somewhat the fashion—and I think a commendable fashion—to revive interest in medical history, and the agitation of the subject is likely to lead to more general interest and to the establishment of medical history in the curricula of the modern medical college. Regular lectures on medical history are now given in most of the Italian medical schools, in the Universities of Vienna, Berlin, and Wurzburg, and the Johns Hopkins Historical Club has also stimulated the work. Professor Welsh, of Baltimore, in an address on "The Relation of Yale to Medicine," delivered on the two hundredth anniversary of the founding of the college, made a valuable contribution to American medical history. Numerous other papers in different parts of the United States have put in enduring form and have served to familiarize us with the work and personnel of men of whom we know only in a general way, and with the events of medical interest in their age.

In our own state medical history has been enriched by the contributions of Doctor Vaughan, in his presidential address before the State Society on "The Life and Work of William Beaumont." Further history of Beaumont and his experiments with Saint Martin, and of the medical science of his time was given in addresses in connection with the laying of the corner stone of the Beaumont monument by Doctors Bailey, Goltra, Lutz and Commissioner Osborne.

Under the caption of "William Beaumont—A Pioneer American Physiologist," Doctor Osler, of Johns Hopkins University, recently contributed another chapter to the scientific work of this investigator.

A most interesting and valuable address was recently given by Doctor Phillip A. Knight, of Utica, Michigan, when president of the Northeastern District Medical Society of Michigan, putting on record some of the excellent work of the worthy pioneers of that portion of the state, noting the progress of medicine for the fifty years he had been in practice, and speaking with characteristic modesty of his own share in the maintenance of medical science and of that society.

Doctor Connor, in his excellent address as president, gave at its last meeting a very complete history of the Michigan State Medical Society.

The University has established and now annually celebrates "Founder's Day" of the department of medicine and surgery, and through this means is securing for its alumni and the friends of medicine, historic sketches of the department and its founders, to whom we owe so much. Most of these men were members of this County Society.

It seems quite appropriate, therefore, that we put on record all available material for a history of the Washtenaw County Medical Society. The present society had its inception in a call for a meeting of the physicians of Ann Arbor and Ypsilanti, issued about the middle of June, 1866, which meeting was held in Ann Arbor June 27 following, at which time this society was organized, or perhaps I should better say reorganized, as this was not the first medical organization in the county. Indeed Washtenaw was the first county in the state to establish a county medical society. The Territorial Medical Society, organized in 1819, had the authority conferred by the Territorial Government to grant and revoke licenses to practice medicine, and to determine the qualifications of candidates for practice and also the fitness of medical students to enter upon the study of medicine. The Territorial Society likewise granted to licensed physicians in any county, on application, the right to form a local society. "Thus June 12, 1827, permission was granted Doctors Cyril Nichols, Rufus Pomeroy, William Kitteridge and Daniel Low to form a Washtenaw County Medical Society.* ,

The various Washtenaw county histories have but little to say of pioneer physicians and nothing of medical societies. Like the usual subscription histories they dedicate to fame subscribers chiefly. The only mention I find of physicians in early history—apart from a few individual biographies—is in the history of Pittsfield Township, namely, "no physician settled in this town prior to Doctor Nathan Webb, 1835. (A biographic sketch of Doctor Webb says he came to Pittsfield in 1846). "Doctor Nichols, of Ann Arbor, was one of the first physicians to attend the afflicted in town. Doctors Lord, Denton, Cole and Brigham have gone to the spirit land. Doctors Pomeroy, Millington, Town and Fairchild from Ypsilanti were also early doctors who visited the township in a professional manner."

I have an old time-worn folio paper given me after graduation, in 1859, by Doctor Denton, who held the chair of Theory and Practice of Medicine and Pathology in the University from 1850 to 1860. It is entitled,

"MEDICAL ETHICS
Compiled and Abridged
BY THE ANN ARBOR ASSOCIATION OF PHYSICIANS,
From the code adopted by the
NATIONAL MEDICAL CONVENTION
in 1847. Philadelphia."

The circular is made up of abstracts and quotations from the code of ethics, followed by a "Tariff of Pecuniary Acknowledgements" adopted by the Association. This paper bears no date, but it evidently was published between 1847 and 1851 as an item in the tariff reads—"Visits in the country after dark or in the village after bedtime double." Ann Arbor ceased being a village and became—by incorporation—a city in 1851.

Just when this association was organized, or whether by the doctors authorized in 1827, I am as yet unable to learn, nor when it died or the causes which led to its untimely end. I have been unable to find any record of its transactions. Its purpose to maintain rational medicine and ethic practice and to require some entrance qualifications of medical students is evident in the paper quoted. It is a fair inference that it left some latent seed which germinated in the conception of the present society.

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* See Doctor Connor's "History of the State Society."

The constitution of the existing society says:

ARTICLE II: The objects of this society shall be the advancement of medical knowledge, the elevation of professional character, and the encouragement of zeal, emulation and friendly intercourse among the members of the profession.

ARTICLE IV: It shall be considered a derilection of duty for any member of this society to admit into his office as a student of medicine any person who shall not first present a certificate of qualification as provided in Article VI.

ARTICLE IX: The code of medical ethics of the American Medical Association shall be adopted by the society.

Two classes of membership were provided for—active and honorary. Among its charter members were: Doctor Alonzo Palmer (its first president), Doctor Abram Sager, Doctor Albert B. Prescott, Doctor Henry S. Cheever, Doctor William Lewitt, and Doctor William F. Breakey, of Ann Arbor, and Doctor Francis M. Oakley, Doctor Edward Batwell, and Doctor John W. Babbitt, of Ypsilanti. These were followed within the year by many others. In its list of members was to be found the name of nearly every regular and reputable physician in the county and of many of those within contiguous counties, while its honorary membership included many prominent physicians and surgeons.

The meetings of the society were held quartely. No departure from this plan was formally authorized, but when Doctor Gibbes was president monthly meetings were held. The original plan was to hold two meetings in Ann Arbor—usually the winter and spring meetings, the June meeting in Ypsilanti, and the fall meeting in some other part of the county. The society aimed to enlist the interest of all its members, particularly to bring into active relations, and within the reach of its influence all practicians of medicine.

The proceedings of its meetings while formal were very democratic. All were doctors. No distinction existed other than is always spontaneously accorded to merit. The humblest, youngest and most modest were made to feel at home in the society and encouraged to contribute to its work and welfare. The reading of several short papers rather than long essays was encouraged, thus giving opportunity to more of its members to contribute to the interest of meetings. Numerous reports were made of cases in practice, with brief discussions in which all were invited to participate. Among the important subjects discussed by the society in its early years was that of criminal abortion. The action of the society formulated in resolutions prepared by Doctor Sager was referred to the State Society with the recommendation that that body present it to the State Legislature, and this expression was the means of securing important legislation. That the society had the courage of its resolutions was shown by the fact that one of its members, against whom charges were being prepared, withdrew before they could be preferred, thus saving himself expulsion. He moved from the county but was subsequently repeatedly arrested, charged with the same crime, and though he several times escaped conviction, he finally served a term in the state prison for causing death by criminal abortion.

The society secured the analysis of numerous much vaunted proprietary medicines and exposed their worthlessness. In this creditable work Doctor Silas H. Douglas, Doctor Albert B. Prescott and Doctor Preston B. Rose were chiefly active. Various scientific investigations —physiologic, pathologic, pharmacologic, and therapeutic were undertaken, and many valuable papers and important contributions to medical literature of the time were presented. Among them, as samples, and quoting from memory, were "Diseases of the Cord and Placenta," *"Case of Simultaneous Intra- and Extrauterine Pregnacy," "Ophthalmia Neonatorum," "Case of Delivery by Ceaserean Section"—one of, if not the first reported in the state, by Doctor Abram B. Sager; papers on "Consumption," "Climate," "Paralysis," and others by Doctor Alonzo B. Palmer; and papers of much interest then on the Climatology of New Mexico, Colorado, and the higher altitudes of the Rocky Mountain range in that latitude, also in North Carolina with discriminative observations of the class of cases benefited, and the need for care in gradual elevations, by Doctor Henry S. Cheever, studied when trying to arrest his own tuberculous disease which proved fatal. Doctor Oakley and Doctor Batwell contributed many interesting and valuable papers practic and helpful to physicians, and both were ingenious in mechanic devices for surgical appliances, a qualification of much value at that time when instrument makers and supplies were not as numerous and near as now. Papers and addresses were also given by Doctors William Warren Greene, Alpheus Crosby, Samuel G. Armor, Frothingham, Maclean, Sewell, Howell, Abel, Dunster, and others.

But valuable as were these contributions of investigation and practice, they were hardly more beneficial to members of the society than was the social commingling, and the opportunities to know and appreciate the individual characteristics of fellow-practicians and to observe that in supporting a brother physician in proper conduct they were supporting the profession of medicine as a whole, and tending to maintain that high professional *esprit de corps* essential to the success of organized effort.

The more recent work and contributions of living members, the limits of this paper do not afford space to even mention by title. It is no disparagement to any that may be overlooked. Valuable work has been done under the presidencies, in successive order, of Doctors George, Darling, Gibbes, Vaughan, Carrow, Dock, Novy, Huber, Warthin, and Peterson.

Among the practic things accomplished in the direction of securing better fees for public service was the adoption of a scale of fees by the Board of Supervisors of 1874, for postmortem examinations and for coroner's inquests (excluding chemic analysis for poisons). A committee of the society, consisting of Doctor Webb, Doctor John Kapp, and your historian, went before the Board, representing the importance of correct findings, the responsibility attaching to such examinations, and testimony involving interests of property, personal liberty and life, in addition to risks of infection to operators, and presented a schedule of fees. The fees adopted by the Board were fair and reasonable for the time, ranging from $5 for ordered inspection of cadaver, with reference to testifying as to cause of death; $10 each for section of thorax or abdomen and examination of their viscera; $15 for section of skull and examination of brain; $20 for examination of any two of these cavities; and $25 for all of them. This fee bill for ordinary legal inquests was quite generally copied in different parts of Michigan and other states, but unfortunately after a few years, boards of supervisors—whose rules are not like the laws of the Medes and Persians—declined to be bound by the rules of their official predecessors, and they claimed as a reason for not adhering to this scale of fees, that in so many cases the doctors found it necessary to examine contents of chest, abdomen and skull, and did not always find the cause of death then, but charged the whole schedule of fees. It is not improbable that there was some ground for the action of the Board.

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* The specimen and history was furnished by Doctor H. B. Landon.

The society has had various stages of prosperity and adversity—of enterprising zeal and decline of energy. Some earnest differences arose that divided its members in positive opposition at the time, and enlisted the sympathies of the profession at large and furnished the laity opportunity to ask "Who shall decide when doctors disagree?" Time has removed most of the actors in the little drama, and in the dim retrospect, the remebrance seems almost amusing in the sidelights cast during the lapse of more than a quarter of a century.

No history of the society would be complete without mention of the break in its ranks on the introduction of homeopathy into the University. As it divided the faculty of the department of medicine and surgery and members of the State Society, it is not strange that the subject should have aroused as great interest in the home society as it did in the profession of the state and throughout the country. The secession of members of the faculty and the formation by them of the Ann Arbor Academy of Medicine followed. The Academy was denied representation in the meeting of the American Medical Association at Buffalo the following year through protest from this society. Later the faculty was glad to make use of the attitude of this society, supported by the State Medical Society, to induce the regents to relieve the department of medicine and surgery of many of the most obnoxious features of the relations at first established. The contention led to bitter feeling at the time, members on both sides no doubt failing to apprehend the real position of those differing, and each claiming to be actuated by highest regard for the good of the profession and the University. Like the shield in the fable, the situation had two sides. Fortunately members of the society were too wise not to recognize established facts, and too sensible to permit such a situation to destroy the usefulness of the society, and the controversy has long since been a closed incident.

Many of its members have served their communities in public office with fidelity and credit. Doctors Webb, Ewing, and Howell represented their districts and the county in the State Legislature, while others rendered service on the Boards of Education and Public Health. Doctors Batwell, Breakey, Cheever, Dunster, Ewing, Garigues, Maclean, Oakley, Owen, Palmer, Prescott, Rose and Smith served in the Civil War from 1861 to 1865, and Doctors Bourns, Owen, Nancrede, and Vaughan in the War with Spain.

Its roll of honor of those who have answered the last call and paid the debt of nature, grows larger year by year. Naming them from memory, but not in the order of their departure, I place in this memorial record Doctors Armor, Ashley, Babbit, Batwell, Benn, Bigelow, Cheever, Crosby, Chamberlain, Douglass, Downer, Dunster, Ewing, Fairchild, Frothingham, Garigues, Gates, Greene, Halleck, E. Hall, Daniel Hall, Hawxhurst, Helber, Howell, Kinne, Lewitt, Lyster, Loomis, Oakley, Palmer, Post, Rexford, Root, Sager, W. B. Smith, Elias Smith, Van Tyne, Voorhies, Wells, Webb and Zimmerman.

There may be others who have been overlooked in the preparation of this list.

It is an honor to have known them and to have been associated with them in professional work. Of the charter members I believe only Doctor Prescott and myself survive. The story was told of Thadeus Stevens, when so old and helpless that he had to be carried up the steps of the Capitol to his seat in Congress, that he asked the two vigorous young men who bore him—"Boys, I wonder who will carry me up when you are dead"? I trust Doctor Prescott will continue in faithful service for many years yet, and while I do not attempt much sprinting on foot, or desire service on *standing* committees, I hope to be able to share in the history the society will continue to make as long as possible, so—

"When I remember all the friends so linked together
I've seen around me fall, like leaves in wintry weather,
I (do not) feel like one who treads alone some banquet hall deserted,
Whose lights are fled, whose garlands dead, and all but me departed."

For I renew my youth and keep in touch with the procession in the presence of these zealous younger doctors, the infusion of whose young professional blood is to keep up the circulation of the society till they in turn give it over, healthy and prosperous, to their successors. Its opportunities are large to do good for the profession, for its members, and for the public. A society no more than an individual can always secure immediate results of its labors. But its ideas, its opinions and its facts of scientific demonstration can be recorded. It can enter its protests against vice, error and quackery and sometime, soon or late, it will achieve success.

It may not be the province of a historian to comment on events he records or to prophesy, though I think both is often done. It seems to be assumed that the society is "enjoying poor health." This should not be assumed, much less should it be, nor do I think it is, true. The society should not be anemic with its accessions of energetic young members. It is not suffering from plethora—of a financial character at least—the treasurer states. It can hardly be overworked nor "run down," nor need the "rest cure." It is a question whether more exercise would not reinvigorate it. I should like to prophesy only good for the society from such treatment, and, if I might venture to prescribe—tentatively at least—I should say it is a good case for expectant treatment and faith cure, coupled with individual effort of every member, contributing in any practicable way to the nutrition of the society; and then though doctors come and doctors go the society like the river will go on forever.

THE RELATION THE PHYSICIAN SUSTAINS TO THE LAW.*

By ROLLIN H. PERSON, Lansing, Michigan.

MEMBER OF THE BAR.

The relation of the physician to the law is a broad subject. The practice of medicine is of the utmost importance to society. The health of the community, to a large degree, is in his keeping and, naturally, the law reaches out and touches his profession at many points.

In the first place, no one can be a physician without the consent of the law. The people, acting through their organized agent, the legislature, have sought to protect themselves against quacks and impostors. It is a learned profession and society requires that its members be learned. The lives of patients should be dealt with honestly, and the law requires physicians to be honest. The relation of physician and patient involves a trust imposed on the physician; he comes into posession, by virtue of his profession, of secrets most delicate and important to those who place themselves within his care, and the law seals the mouths of practicians from the exposure of these secrets; even the tribunal of justice cannot extort from the doctor's lips those things which have come to him in the course of his professional duty.

As I have said, the physician belongs to a learned profession, and by representing himself as a member of that profession, he guarantees to the world that he possesses the skill ordinarily belonging to its members. If that skill is not his and a patient suffers because it is wanting, the physician is liable to damages. The skill required is not necessarily of the highest degree, nor is a physician in a country town called upon to possess the attainments of a practician in some other and more favored locality. The rule is that each physician is expected to rank fairly in knowledge and skill with average physicians in his immediate locality; and the law requires him not only to be skillful, but to be careful and attentive to his patients. Negligence is as dangerous from the point of view of the law, as ignorance. A doctor who is negligent in the performance of his duties is liable to an action for malpractice if injury results from such negligence. And not only may he be liable to an action for damages, but if his ignorance or negligence be gross and death ensues because of it, he may find himself facing the criminal law and under indictment for manslaughter or murder. The profession is a great one and its legal responsibilities are equal to its importance.

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*Read before the Ingham County (Michigan) Medical Society.

In fact the law is like the atmosphere which leaves one to move with freedom, but, nevertheless, envelops him everywhere. It would, therefore, be impossible in the time given me to mention all the situations in which a physician may find himself amenable to the law, and for this reason I will restrict my remarks to that particular relation which has had considerable interest to the members of this society.

The laws of this state provide for a local board of health in every township, village and city, and to these local boards the state has confided most of the executive power provided by the state for the protection of the public health. These boards are but *agents* of the state, and, like other agents, have only such authority as the principal has seen fit to give them. The powers of different agents greatly vary; one may be an agent for a single specific purpose, and if his authority is restricted to that single thing, he cannot bind his principal by anything he may say or do as to other things; or an agent may be given so much power that he represents his principal in most of the affairs of life and becomes, in fact, a viceprincipal. The degrees of power given may range anywhere between these two extremes, and the board of health, like any other agent, has such powers and such only as the principal has given. If you commission someone to buy you a horse, he has no authority to buy for you a herd of cattle.

In townships, boards of health are made up of the members of the township boards; in villages, the common council is usually the board of health; in cities, boards of health are variously constituted. In Lansing, by the charter of the city, the senior aldermen, acting together, constitute the board of health; and at this juncture I wish to call your attention to an important matter. The members of the board of health, taken separately and individually, are not the board of health. The members of the board of health must act together as a *board* to become a board of health, and very little of the power given by the state is invested in the members of the board separately and individually, but is given mostly to the board sitting as a body. It is a board acing as a board that has authoriy to make most of the rules, pass most of the resolutions, and audit accounts. The legislature has given authority to the board as a board, and whenever any physician is required to act in a matter of public health, he should see that the board of health, acting in its collective capacity as a board, passes upon all those qeustions which the law has submitted to the board.

The law also provides that boards of health shall have a clerk, who shall keep a record of the proceedings of the board in a book to be provided for that purpose at the expense of the township, city or village. And, inasmuch as the law provides for a record, such record becomes the best evidence of the actions of the board, and in many instances it is the only evidence that will be received by courts of law. Hence, if any physician is employed by a board of health to render valuable services for which he expects compensation from the public, he should see not only that his employment is by the board as a board, but that a record be made upon the minutes of the board showing such employment and the terms thereof.

Among the various powers given to these boards of health and duties imposed upon them are these: "When any person coming from abroad or residing in any township within this state shall be infected or shall lately before have been infected with smallpox or *other sickness dangerous to the public health,* the board of health of the township, city or village wherein such person may be, shall make effectual provision in the manner in which they shall judge best, for the safety of the inhabitants, by removing such sick or infected person to a separate house, if it can be done without danger to his health, and by providing *nurses and other assistance and necessaries,* which shall be at the charge of the person himself, his parents or other persons who may be liable for his support, if able; otherwise, as a charge of the county to which he belongs: Provided, that the board of health shall keep and render an itemized and separate statement of expenses incurred in so caring for each person. . If any such infected person cannot be removed without danger to his health, the board of health shall make provisions for him as directed in the preceding section, in the house in which he may be, and in such case they may take such other measures as they may deem necessary for the safety of the inhabitants."

It must be remembered that in regard to the matters mentioned in these extracts from the law which I have read, the board of health is given power to act but as agent of the state, and it, therefore, is given only such power as the law mentions. A board of health may take in charge persons infected with the smallpox or other sickness dangerous to the public health; such is the limit of its power in this direction, and for persons so taken in charge by a board of health nurses and other assistance and necessaries may be provided. The power to provide nurses and other assistance and necessaries undoubtedly empowers the board of health to employ a physician, and when it employs a physician, as the law now stands, it employs him at the expense of the county; for, although the law reads as if the expense were to be collected from the individual if possible before calling upon the county, yet, in view of the fact that immediate help is usually required for the safety of the public. and that few people would give that help if they had to depend on the patient for their pay, the Supreme Court has construed the statute to mean that the county must first advance the conmpensation and then it may collect the same from the individual if it can.

Now it should be borne in mind that a doctor does not receive his compensation from the county for every case of contagious disease treated by him. The simple fact that he has treated a case of contageous disease gives him no right to call upon the county for compensation. If the county owes him anything, it is not because he has treated smallpox or some malady of similar nature, but because he has been employed by the board of health to do so. It is the employment by the board that makes him a creditor of the county, and not the existence of contagious disease alone.

It is the employment by the board that creates a claim against the county, but even the board cannot employ anyone so as to create such claim unless the employment is within the scope of the authority given to it as the state's agent. It will be noticed that the board of health cannot employ a nurse or physician simply because the patient may be poor; poverty is not the foundation upon which an action by the board of health may be placed. Perhaps superintendents of the poor may purchase medicine, employ nurses, and retain physicians for an indigent patient on the ground of poverty alone regardless of the disease from which the patient may be suffering, but that is not the position of the board of health. The state has said to the board of health: "You may do these things in the case of contagious disease but not otherwise", and in a case of contagious disease the board may employ a physician for the richest man in the community as well as for the poorest. It employs the physician, if it employs one, for the benefit of the public that the contagion may be arrested at the earliest possible date and that it may be restricted within the closest possible limits. It does not employ the physician for the sake of the patient but for the sake of society, and if the board of health deems it for the best interest of the community it may take the man worth a million and confine him in a pesthouse and forbid that he be visited by any except the physician employed by the board.

What is meant by the term "Sickness dangerous to the public health" is in many respects extremely uncertain. The law speaks of a person *infected* with a disease dangerous to the public health. Perhaps it might be said in a broad way that all diseases are dangerous to the public health, but that surely is not what the statutes means. The language refers to diseases dangerous because of some infectious of contagious quality. When this original statute from which I have quoted was passed, the legislature seemed to have in mind but one disease which, as a matter of law, they were willing to classify as a disease dangerous to the public health, and that disease was smallpox. As our knowledge of various diseases has increased, the legislature, in later statutes, has specially designated others as coming within the definition, so that the law now mentions cholera, diphtheria and scarlet fever with smallpox; but outside of those four specific diseases, none can be said to come within the general classification as a matter of law. Whether any other disease which may come into the community is an infectious disease, dangerous to the public health, is a question of fact to be determined in each instance by a jury, should a contest be made. The board of health may employ a physician when a person is *infected with a disease dangerous* to the public health, but in no other instance.

The law also provides that every board of health shall appoint and constantly have a health officer who shall be a physician if possible, and who shall act as a sanitary adviser and executive officer of the board. As the board of health is the *agent* of the *state,* so the *health officer* is merely the *agent* of the *board;* and as the board of health has only such powers as are given to it, so the health officer has such powers only as are given to him. As executive officer and agent of the board, and in behalf of the board, he may order the isolation of those sick or infected with smallpox, diphtheria, scarlet fever or other communicable disease dangerous to the public health, and in such case it is also made his duty to see that the person so isolated shall not suffer for lack of *nurses or other necessaries* because of isolation for the public good. The evident idea of these provisions relative to the actions that may be taken by the health officer is that instances may arise which should be acted upon before the board of health can be convened. The health officer is not the *board of health;* he is an *agent* of the board and may act for the board and bind it by his action to the limited extent mentioned in the statute. When he isolates anyone from the public, whether in a pesthouse or in the patient's own house, he shall see that such person does not suffer *because of such isolation,* and if a physician is needed at once, the health officer would have power to employ one in the name of the board of health, and the board of health would be bound by such employment. But as I said, the health officer is not the board of health itself, he is merely the agent of the board, and the law makes it his duty to report promptly to the board the action he has taken. The purpose of the authority given to the health officer seems to be that he shall act in an emergency, and after he has reported the situation to the board of health, it would be better and safer for a physician employed in the particular case to see to it that his further employment is by direction of the board of health itself, and that some record thereof is made upon the minutes of that body. The health officer cannot audit or allow any bills, because those come before the board of health itself, which is required to keep an itemized statement of the expenses it incurs, and the board of supervisors, before authorizing payment of any bills created by the board of health, has a right to an itemized statement of the expenses embraced therein.

SUMMARY.

A board of health is but an agent of the government with limited powers, and authorized to act only in such matters and by such methods as the law designates.

The statute uses the term "infectious disease" and "communicable disease" as meaning the same thing, and refers to such diseases as may be communicated from one person to another. Neither does the law refer to all communicable diseases, but to such only as are *dangerous to the public health.*

Boards of public health are not given authority in *all* cases of sickness, but only in cases of communicable disease dangerous to the public health; and they have no power to incur expense simply because the sufferer is poor.

The statute enumerates certain diseases, namely, smallpox, cholera, diphtheria and scarlet fever as communicable diseases dangerous to the public health; whether any other disease comes within the terms of the statute is a question of fact to be determined in each particular case.

Boards of health act primarily in the interest of the public and not in the interest of the patient. So far as they are concerned, the patient must take care of himself and pay his own expenses, regardless of his poverty, unless the disease with which he is afflicted is communicable and dangerous to the public health.

If the disease in any particular case is not such as to require isolation, in some degree at least, it cannot be said to be a communicable disease and dangerous to the public health. Therefore, boards of health have no power to employ physicians and nurses at the expense of the public, unless the particular case requires and receives some degree of isolation. Even if the *board of health* should employ a physician to attend a patient whose disease does not require isolation, the physician cannot, in such a case, collect compensation from the county, for it would be a case in which the board had no power to employ a physician.

The statute does not fully explain, nor has any court decided, so far as I know, just what is meant by "isolation," but I should think it would mean separation of the patient from the public so as to prevent the communication of his disease. For instance, I understand that there is not much danger, if any, of communicating typhoid fever through the breath, and that perhaps a patient with that disease need not be entirely excluded from the public, yet I do understand that there is great danger of contagion or infection from such cases in other ways, and that care must be exercised to prevent the communication of the disease. I think that such steps as are necessary to prevent the communication of typhoid fever may well be called isolation. The idea is that a board of health may employ physicians and nurses when the patient requires any particular care in the interest of the public because of the communicability of the disease, then it seems to me that boards of health have a right and are in duty bound to protect the public by the employment of a physician when necessary. This, however, is only my personal opinion, and I do not know that the question has ever been authoritatively determined by any court.

In the case of a disease which is communicable and dangerous to the public health, boards of health and their agents, the health officers, may employ, if necessary, physicians and nurses *when there has been* *isolation of the patient.* But the physician who expects to collect his compensation from the county should be sure that there is a clear understanding with the health officer or the board to the effect that he is employed by the board and is to be paid by the public. Simply attending a case of contagious disease does not entitle him to compensation. He is entitled to compensation because he is hired to give such attendance by an agent authorized to bind the public. If the attendance exceeds a few visits, a physician should have it understood that he is employed by the board itself as well as by the health officer; or at least that the board understands and ratifies the action of the health officer; and also that a record of the employment should be made upon the minutes of the board.

Before an account can be presented to the board of supervisors, it must be audited and allowed by the board of health sitting as a board, and when once so audited and allowed in good faith and honestly, the board of supervisors cannot question the account. Should there, however, be any fraud or gross negligence in the allowance, the board of supervisors might undoubtedly refuse to pay the bill.

Boards of health have limited powers, but within the limits of their powers they are very important agencies of the government. It is conceivable that the board of health in any village or city may have occasion in some single season to expend more of the public money than the common council itself. The necessity of the case is the only limit to its power of expenditure, and having this great power, the public interest demands that all its steps be regular and carefully scrutinized.

A CASE OF CHOLESTEATOMA OF THE MIDDLE EAR, WITH RADICAL OPERATION.

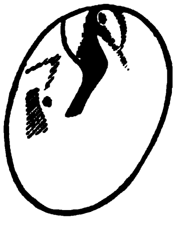
BY EMIL AMBERG, M. D., DETROIT, MICHIGAN.

A WOMAN thirty-two years of age consulted me July 19, 1902, after having been recommended to see me one year previously. The patient postponed consultation until frightened by hemorrhages from the left ear. Upon request, the patient gave a written history of her experiences referring to the affliction to above date, which reads, slightly augmented after interrogations, as follows:

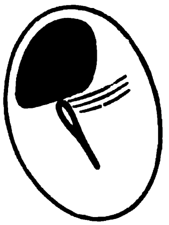
LEFT EAR.—In November, 1898, after an attack of tonsillitis, she suffered from ear-ache for about a week. She called a physician and was treated for neuralgia from November until February. There was a dark-yellow discharge during this period. The patient's appetite became impaired and she was extremely irritable. In February, 1899, the discharge ceased and the pain became intense. She called another physician who made a diagnosis of acute ear affection. She was confined to her bed for eight days, could not eat and was extremely nervous. A discharge which began about after the first treatment was thick and heavy and continued about one month. She treated it herself for a short time according to the physician's directions, syringing the inside and applying powder to the outside, when it apparently healed. Pain was again experienced three or four times during this year, also a discharge, lighter in color but very offensive, continued, and the appetite remained anorexic. During the year 1900 similar conditions existed.

Early in the following year, the attacks became more frequent though the pain was not so intense. The discharge, however, remained the same. During the year 1902 the attacks continued at intervals of four to six weeks. The pain was not severe and the discharge was lighter colored though still of an offensive odor. There was a constant discharge for nearly six weeks previous to July 17, when blood was noticed and two days later patient consulted the writer, who found tenderness three-fourths of an inch back of the auricle and in a line with the upper wall of the canal.

RIGHT EAR.—About April 1, 1889, a cold in the head, which settled in the ear, caused intense pain followed by deafness. She consulted a physician who found the ear filled with a hard stringy substance. After continual treatment for five months, hearing was restored and no further difficulty was experienced.



RIGHT EAR, ENLARGED.



LEFT EAR, ENLARGED.

When the writer examined the patient's ears, the lateral walls of the tympanic cavities appeared as the figures show. The right ear was dry. The left had an offensive discharge. A watch normally heard at a distance of one hundred to one hundred fifty inches was heard at a distance of five and five-tenths inches by the right ear and two inches by the left.

The patient was told that palliative treatment would be tried but with no promise of success. The treatment consisted of cleansing the epitympanic cavity and the space back of the opening in the bone with antiseptic instillations. After about two weeks, intratympanic syringing removed the cholesteatomatous material. At the end of the second week in August, after an intratympanic treatment, the patient felt dizzy, vomited twice after returning home, was feverish, and had a heavy, puffy feeling in the ears. Hearing improved somewhat in the left ear, the same watch which had been used before being heard August 10, at a distance of three and one-fourth inches. The patient reports that on the same day she frequently experienced pain over the left eye and at the back of the head. During the following six days the patient suffered from a severe cough and a disordered stomach. She reports that she vomited frequently when the ear was very painful but attributed it to "catching cold." Syringing always made her dizzy.

August 17, 1902, the same watch was heard by the right ear at a distance of seven inches. "Eighty-nine," whispered, was heard at a distance of four feet. The same watch was heard by the left ear at a distance of six inches. "Ninety-eight," spoken in conversational tone, was heard at a distance of fourteen inches. Notwithstanding the slight improvement in hearing, the patient was advised to submit to an operation. The history and subjective and objective symptoms made it evident that there continued a destructive process in a region not accessible through the meatus.

The operation was performed at Harper Hospital August 21. During the procedure chloroform anesthesia was changed to ether owing to a weak pulse. The mastoid cortex was found to be sclerotic, and the antrum filled with detritus. A portion of the posterior wall of the canal was removed, laying bare a cavity filled with a thick lining of cholesteatomatous masses inward, upward, backward and outward from the space usually occupied by the antrum. The cavity was cleansed as much as possible and packed with iodoform gauze.

On two later occasions a plastic operation was attempted and completed, followed practicly Panse's method. The posterior wall of the cutaneous canal was split in the long axis and two incisions were made near the concha, one rectangular to the first cut, upward, the other downward, the lower flap stitched backward and downward, the other upward.

The after treatment, although tedious for both the patient and the surgeon, resulted, at the beginning of November, in an epidermatized cavity. The permanent opening behind the ear would make any recurrence easily amenable to treatment. There has been no packing in the cavity since December 11, 1902, when the patient was presented before the Wayne County Medical Society.

February 25, 1903: The patient had not been to my office since January 29, 1903. She complains that her ear feels full. Examination revealed the cavity filled with secretion, and a polyp where the posterior wall of the remnant of the bony canal leads to the tympanic cavity. She complains that she felt sleepy last week. She looks healthy and more fleshy than before. The polyp was removed, the cavity powdered with iodoform powder and packed with iodoform gauze.

March 14, 1903: When the patient works her head aches on the left side. When she is quiet she feels well. The cavity is becoming dry.

March 17, 1903: The patient complains of frequent pain in the left temple. A slight discharge was found near the upper semicircular canal, which was packed with iodoform gauze.

April 9, 1903: The patient comes to the office on an average of every fifth day. The cavity is loosely packed with a small strip of iodoform gauze. At times she experiences sharp, shooting pain, but usually feels quite comfortable. The opening behind the auricle is protected at every treatment with a small black plaster which is not much noticeable. The cause and nature of the slightly secreting spot is not quite clear. The advantage of the permanent postauricular opening, at least for some time to come, is amply illustrated in this case. The patient's general condition is likewise improved. Before the operation she weighed one hundred thirteen pounds, while her present weight is one hundred seventeen pounds.

June 1, 1903: Since May 21, 1903, when slight curetting of discharging spot was done, no discharge has been visible and there has been no pain in head. Patient will be examined periodicly, however, for some time to come, and loose packing will be left in the cavity.

HEARING TESTS BEFORE AND AFTER OPERATION.

July 19, 1902: Watch—Right ear, $\frac{5.5}{100\text{-}150}$ inches; left ear, $\frac{2}{100\text{-}150}$ inches

August 15, 1902: Watch—Left ear, $\frac{3.25}{100\text{-}150}$ inches.

August 17, 1902: Watch—Right ear, $\frac{7}{100\text{-}150}$ inches; left ear, $\frac{6}{100\text{-}150}$ inches. Voice—Right ear, eighty-nine, whispered, four feet; left ear, ninety-eight, whispered, one-half foot; ninety-eight, conversational tone, fourteen inches.

December 8, 1902: Watch — Right ear, $\frac{3}{100\text{-}150}$ inches; left ear, $\frac{2.5}{100\text{-}150}$ and $\frac{2}{100\text{-}150}$ inches. Voice—Left ear, ninety-eight, whispered, sixteen inches; eighty-one, conversational tone, more than six feet.

ORIGINAL ABSTRACTS.

SURGERY.

By HENRY O. WALKER, M. D., Detroit, Michigan.
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AND
CYRENUS GAVITT DARLING, M. D., Ann Arbor, Michigan.
LECTURER ON SURGERY AND DEMONSTRATOR OF SURGERY IN THE UNIVERSITY OF MICHIGAN.

GANGRENOUS CHOLECYSTITIS.

A case of gangrenous cholecystitis is reported in the April number of the *American Journal of the Medical Sciences* by J. H. Gibbon, M. D., of Philadelphia. The writer first calls attention to the rarity of this condition and then gives a brief history of a case from which he draws the following conclusions:

Two factors enter into the causation of gangrenous cholecystitis, namely, obstruction of the cystic duct and infection by virulent microorganisms. Gangrene cannot take place until the circulation is obstructed. The gall-bladder may be compared to the appendix, but is not so often gangrenous as it has a better blood supply. The impaction of a stone in the cystic duct may cut off the blood supply to the gall-bladder the same as an appendolith may, by pressure, interfere with the blood supply to the appendix.

The symptoms are those of severe local peritonitis, with temperature, vomiting, obstruction of the bowels and leukocytosis (37,000). Jaundice may not be present until the inflammation reaches the liver structure. The condition should not be mistaken for appendicitis. The tumor moves under the examining hand and is located above the usual point for appendicial tumor. Complete anesthesia discloses its relation with the gall-bladder. When diagnosis is doubtful open the abdomen. The treatment advised is removal of the gall-bladder and drainage. Rapid improvement is seen in the diminished leukocytosis from 37,000 to 12,600 in twenty-four hours. C. G. D.

THE TOXICITY OF APPENDICITIS, WITH A REPORT OF TWO CASES OF APPENDICULAR VOMITO NEGRO.

George Ryerson Fowler, M. D., of Brooklyn, New York, calls attention (*Medical Record*) to the fact that in all the literature of appendicitis little is said about toxicity or toxic effects upon the organism. General intoxication should not be mistaken for distant infecton.

Distant infection occurs through the medium of septic emboli, usually formed in the veins of the mesoappendix and carried to the liver or the lungs. General infection or pyemia may come from puriform softening of the thrombus with a general distribution of microorganisms through the circulation, to be followed by the formation of metastatic abscesses.

Distant infection through the lymph channels is not common as the vessels become rapidly sealed by the exudate. Pleuritic complications following perihepatic and subphernic abscesses are most frequent examples of transmission by way of lymph channel. The latter are merely an extension of the suppuration, but the pleuritic inflammation is due to lymphatic extension through the diaphragm. One infectious form has received the name of "appendicular vomito negro" and arises after or without operative interference.

Dieulafoy reported a number of these cases about two years ago, and has in a more recent paper given a description of the postmortem appearances in a single case. The gastric change consisted of a small area of hemorrhagic necrosis at the bottom of which a small artery had given way. The black vomit occurs only after general infection. In three fatal cases so much blood was vomited that it entered the lungs, two other patients died from anemia following hemorrhage, while two recovered. Perforative appendicitis was present in all of the cases.

Nitzsche found in a fatal case a large number of flat ulcers from a pin-head to a millet seed in size. He believed the ulcers were formed by the toxic effect of bacterial products on the gastric mucous membrane.

The author gives the history of two cases of appendicular black vomit that came under his observation. Both cases showed a perforated appendix without limiting adhesions. There was little or no vomiting after anesthesia. One patient died on the sixth day after operation, the other lived only forty-two hours. A postmortem in the latter case revealed two or three hundred small ulcers on the lesser curvature of the stomach. The deeper tissue was becoming necrotic and contained staphylococci with round cell infiltration at the base. Vessels of the mucosa were blocked and contained necrotic emboli. A thrombus had been formed which contained microorganisms, from which emboli were undoubtedly distributed to the points of ulceration. The rapidity with which the changes took place, illustrating the extreme toxicity of certain forms of appendicitis, should call for a further study of the subject.

In connection with this subject of infection following appendicitis, is another paper by Max Ballin, M. D., of Detroit, Michigan. The title is "Acute Yellow Atrophy of the Liver as a Sequela to Appendectomy" (*Annals of Surgery*). The disease is rare and generally terminates fatally. Only ten reported cases could be found following operation, the writer's being the only one in the country. Doubt might be cast upon the diagnosis unless confirmed by postmortem, but the case in question presented such characteristic symptoms that all doubt should be removed. In nearly all cases there was hemorrhagic vomiting. Opinion seems to be divided as to whether the condition is due to chloroform anesthesia or to infection. The treatment employed in this was venesection followed by intravenous saline transfusion. The patient recovered. Bouchard mentions the fact that recovering cases have a sudden large diuresis. The writer's case had a marked diuresis and abundant bile-stained perspiration on the seventh day after operation. The manner in which the disease responded to the treatment is in favor of an infectious origin. C. G. D.

GYNECOLOGY.

By REUBEN PETERSON, A. B., M. D., Ann Arbor, Michigan.
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THE CONDITION OF THE APPENDAGES IN UTERINE FIBROMATA.

Daniel (*Revue de gynécologie et de chirurgie abodminale,* January and February, 1903) sets forth in a very elaborate monograph, based on anatomic studies, the results of his researches on the condition of the appendages in uterine fibromata. He was led to make these investigations from the relative frequency with which he found the tubes and ovaries diseased in the abundant material coming under his observation at Pozzi's clinic.

The condition of the appendages when the uterus is the seat of fibroid changes has been dismissed by most authors with a few words. A few authors speak of inflammatory and cystic disease of the appendages, and Tait and Jones have endeavored to show that one was the cause of the other. But on the whole literature does not throw much light upon the subject.

There were two hundred eight operations for fibroids in Pozzi's clinic during the ten years from 1893 to 1903. Of these seventy-two or 34.6 per cent showed diseased appendages. If from the two hundred eight cases be deducted eighty-four cases where no reports were made, 59 per cent showed lesions of the appendages. Twenty-five per cent showed normal appendages.

The author has based his work upon two hundred five cases, seventy occurring at the clinic and one hundred thirty-five collected from the literature. He has found it convenient to divide the changes in the tubes and ovaries of the fibromatous uteri into three groups: (a) changes in the tubes, (b) changes in the ovaries, (c) changes in the remnants of the Wolffian bodies, and to these he adds a fourth group, (d) changes in the tissues near the appendages.

(a) *Changes in the Tubes.*—He finds that the tube can be the seat of all kinds of pathologic changes, the ovary almost always being affected as well. In the seventy cases from this clinic, twenty-five per cent showed catarrhal salpingitis—in the majority of cases accompanied by localized peritonitis with pronounced lesions of the ovaries.

Elongation of the tube is to be noted in a certain proportion of the cases. The most frequent change is hyperplasia of the mucosa and muscularis with round-celled infiltration, diminishing the calibre of the tube and at times causing obliteration.

Chronic parenchymatous salpingitis is not infrequently to be found accompanying fibrous tumors of the uterus, both in its hypertrophic and atrophic form. The tubes may be very much changed and very adherent to ovaries and the pelvic tissue.

Noncystic acute purulent salpingitis with patency of the uterine portion of the tube, was very infrequent. Pyosalpinx on the contrary was very frequent as proved by numerous observations. It was present in over eleven per cent of the clinic cases and may be unilateral or both sides may be affected. In the cases collected from the literature the percentage was even higher, sixteen to seventeen per cent.

Hydrosalpinx is quite a frequent accompaniment of uterine fibromata, fourteen per cent of the writer's cases being thus affected. The hydrosalpinx may be of any size, but is usually not larger than an ordinary pear. The abdominal ostium is always closed, the uterine opening may or may not be. The hydrosalpinx may be single or double, free or densely adherent with or without disease of the ovary.

Hematosalpinx is not particularly common, only 2.88 per cent of the cases showing this complication. It may be consecutive to a hydro-

or pyosalpinx from a rupture of the blood-vessels in the walls or it may arise from torsion of the pedicle.

Tubercular disease of the tube exists in connection with similar disease of the ovary or there may be tubercular infiltration of the tube without tubercular pelvic peritonitis. On the whole it is rather a rare complication of uterine fibroids.

Ectopic gestation occurred in three per cent of Martin's ninety-one cases of fibroids. In fifteen cases where this complication has been observed, twice the tumor actually compressed the tube, but the abnormal gestation is probably not so much due to obstruction of the tube by this means as from the changes in the tubular mucosa which interfere with the downward progress of the fecundated ovum.

(b) *Changes in the Ovaries.*—According to the testimony of various observers the ovaries are frequently diseased in connection with uterine fibromata, and according to Gecco the ovary is more frequently affected than is the tube. The chronic forms of ovarian inflammation, both hypertrophic and atrophic are most commonly met with in connection with fibroids of the ovary.

As showing the frequency with which the ovaries are affected, it may be said that forty per cent out of seventy cases were diseased, while in the same number of cases only in seventeen per cent were the tubes the seat of disease.

Two forms of cystic ovarian degeneration have been noted—hydrocystic and hematocystic ovaritis. Besides these, according to the observations of Pilliet and other authors, certain changes in the corpus luteum have been occasionally recognized.

Suppuration of the ovary is comparatively rare unless accompanied by pyosalpinx. The same may be said of primary tubercular disease of the ovary.

Large cystic tumors of the ovary, associated with uterine fibroids, may be said to be rather uncommon. They may be divide into mucoid, dermoid, and mixed forms. There were two mucoid ovarian cysts in the seventy cases taken from the clinic, one being intraligamentous. They are more often unilateral than bilateral.

Dermoid cysts are even rarer complications and are more often situated upon one side. The rarest forms of ovarian neoplasms in connection with uterine fibroids are the solid tumors of the ovary (sarcoma, fibroma and epithelioma). Only one case was observed in seventy. In almost half the cases of coincident solid ovarian and uterine tumors, the former are also fibroid in character. Sarcoma, on the other hand, is extremely rare, and the same may also be said of epithelioma of the ovary. The author places the papilliferous cystomata with the malignant ovarian growths. They are occasionally met with as complications of uterine fibromata.

(c) *Changes in the Broad Ligament Accompanying Uterine Fibroids.*—These may be considered under three divisions: cysts of the broad ligament, solid tumors of the same, and pelvic varicocele. The effects of the pelvic venous stasis, brought about by the uterine fibroma, is especially to be observed on the ovary. Rousseau points out that the ovary, from the pelvic varicocele, may be increased in size, be edematous, and even pseudocystic. Again, it may, from the same causes, be the seat of atrophic changes.

(d) *Changes in the Tissues Near the Appendages.*—In this final division the author considers the changes in the appendages which are to be met with where the uterine fibromata are the seat of certain pathologic changes due to degeneration, malignant or benign.

An interesting case of this kind is reported by Mermet, where a fibroma the seat of telangiectasis showed changes in the appendages approaching gigantism. Both the ovaries and tubes were enormously hypertrophied, hard and indurated.

While true cancerous degeneration of a fibroid is not possible, carcinoma may develop simultaneously with a fibroid and be deposited secondarily in the appendages.

Suppurating fibroid, which Martin found ten times in two hundred five cases, can show purulent changes in the ovary while the same cannot be said of aseptic gangrene of the fibroid tumor.

Septic gangrene or necrosis of a fibroid due to putrid infection differs only from suppuration in the nature of the microorganisms. The appendages are acted upon variously by these gangrenous fibroid growths. The tubes may be infected by an extension of the septic process from the cavity of the uterus and a fatal peritonitis may result from the passage of the bacteria through the dilated abdominal ostium. Again, peritonitis may arise by direct extension to the peritoneum from the necrotic growth and the tubes and ovaries be involved secondarily.

Cystic changes in the ovaries may follow twisting of the pedicle of a fibroma. At other times it merely produces an obliteration of the tubal cavity.

Daniel concludes as follows:

"The changes in the appendages when the uterus is the seat of fibromata are more frequent than we would think, as they occur in fifty-nine per cent of all cases. These, however, include microscopic as well as macroscopic changes. All the pathologic lesions met with in connection with the tubes and ovaries will be found to exist with uterine fibromata."

PEDIATRICS.

By ARTHUR DAVID HOLMES, M. D., C. M., DETROIT, MICHIGAN.

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REFLEX CONVULSIONS IN GROWING BOYS AND GIRLS.

DOCTOR EUSTACE SMITH (*London Lancet*, January, 24, 1903), in speaking of reflex convulsions in growing boys and girls, says that convulsions due purely to reflex worry may be found in children as late as the twelfth year, and that in such cases there is almost invariably a history of a neurotic family and of convulsions during infancy. He says these cases are often classified and treated as epileptics, but upon careful examination the convulsions will very often be found to be referable to the alimentary canal, excited by undigested and fermenting food. The nervous attacks are usually at long intervals and the children suffer from poor circulation and cold feet. The attacks invariably coincide with digestive disturbances or with some other form of local irritation, and when these cease the convulsions are relieved. Frequently irritation may be trivial, as, for instance, only a postnasal catarrh or adenoids. Many young persons who are so afflicted may with proper treatment grow into perfect adults, showing no further symptoms of the weakness of their childhood.

STERILIZED MILK, PASTEURIZED MILK, OR CLEAN MILK.

Doctor C. W. M. Brown, in a paper read before the New York Medical Society, January, 1903 (*Archives of Pedriatics*, Volume IV, Number IV), in comparing the relative value of these as food for infants, summarizes briefly as follows:

(1) Sterilization at 212° is of great value especially in cities, and to the poor who lack intelligence, because it may be performed by anyone with simple apparatus, or in fact none at all.

(2) Pasteurization at 148° to 158° is to be preferred as milk is little changed in its taste or its chemic properties from the raw milk, and this temperature is sufficient to kill the pathogenic organisms and lactic acid producing bacteria. However, all agree with Holt, that heating of milk sufficient to kill bacteria does impair to some extent its nutritive properties and to a degree proportionate to the height of temperature employed and the length of time it is continued.

(3) Fresh, pure, clean milk used raw is much to be preferred and it is now supplied to many of the larger cities.

(4) Fresh, pure, clean milk can be supplied to all cities and towns of even moderate size and should be sold only by those milk dealers having a license.

CHRONIC JOINT DISEASE IN CHILDREN.

Doctor Henry Ling Taylor (*Medical News*, August 16, 1902) says nine cases out of ten of chronic joint disease in children are due to tuberculosis. About forty per cent of these cases are vertebral, forty per cent are situated in the hip and about twenty per cent in all the other joints. One of the most marked characteristics of tuberculous disease of the joint is insidiousness. Another marked characteristic is stiffness or limitation of motion due to spasmodic contraction of the muscles. Pain varies much in location in cervical disease. It is found in the neck, the shoulder and the back of the head. In dorsal disease it is found at the sides or in the front of the chest and in the abdomen. In lumbar disease in the loins, back, lower abdomen, hips, down the thighs and sometimes in the knee, leg, ankle or foot. The author says it is well to know that diseases of the lumbar spine, knee disease and other affections, may cause pain in the knee and that it quite frequently is absent in hip disease. The limitation of hyperextension at the hip is the earliest and most delicate test in the disease of that joint. There are few chronic diseases in which early treatment is so beneficial, and in which delay is so serious as in chronic joint diseases in children.

INTESTINAL DISEASES IN INFANTS.

Kerley (*New York Medical Journal,* November 22, 1902) contributes an article, covering a period of five years' experience, upon the prevention of intestinal diseases in infants during the summer among the most unpromising classes, namely, outpatients, which may be summarized as follows: One of the principles established was the necessity of temporarily discontinuing the milk diet in every case of vomiting and diarrhea, regardless of the nature of the attack, and the substitution of a carbohydrate diet in the form of plain or dextrinized gruel. He has demonstrated that egg albumen water is a dangerous milk substitute, and that beef juices and animal broth should be used sparingly, and says it has been made clear that milk should not be resumed until the stools and temperature are normal, and then only in small amounts. It has been the custom for several years to discontinue the milk, to give a teaspoonful of castor oil, and to put the child on barley water diet upon the first signs of gastrointestinal derangement, regardless of the season, and then consult a physician or bring the patient to the dispensary. The large mortality from summer diarrhea is preventable and will be done away with when infants of the poor receive what they are entitled to—clean, suitably prepared, properly cared for and properly administered food. His dispensary work covers seven hundred sixty-two cases of intestinal disease, with a mortality of a trifle under four per cent. This low mortality is due to proper medical and dietetic treatment of the ill, to a fairly good milk and to the education of the mothers.

THE CAUSE OF DEATH IN DIPHTHERIA.

Kohn (*American Medicine,* January 10, 1903). In a general way death in diphtheria is due

(1) To mechanical causes.
(2) To the action of the toxin on the system.
(3) To one of the complications.

(1) Death from mechanical cause may be due in the early stages to spasm of the glottis; in the later stages it is nearly always due to occlusion of the glottis, either by membrane or by swelling and edema of its lining mucous membrane.

(2) Death from toxemia usually occurs at the height of the disease, that is, between the fifth and tenth days. In certain cases of so-called malignant diphtheria the fatal issue may be reached in twenty-four hours. In cases of mixed infection, notably when a streptococcus

infection is superadded, the patient not infrequently succumbs to the secondary toxemia.

(3) Death from a complication is most frequently due, at least in institutions, to bronchopneumonia. This is a frequent termination of the so-called "septic diphtheria." Bronchopneumonia occurs usually at the height of the diphtheric attack, and is then most frequently fatal, but it may occur even during convalescence after the membrane has entirely disappeared. Nephritis, although a frequent complication in any case of diphtheria of moderate severity, is rarely fatal except in septic cases. Heart failure is one of the most distressing forms of death, since its occurrence may be so late in the convalescence as to take both the family and physician by surprise. Postdiphtheric neuritis may cause death by either cardiac or respiratory paralysis. The cardiac paralysis is probably due to toxic neuritis of the vagus nerve, while the respiratory is due to involvement of either the phrenic or the intercostal nerve, most frequently the former. Finally, diphtheria may be complicated by other infectious diseases, which greatly increase the severity of the primary disease. This is notably the case with measles, scarlet fever and typhoid. In such cases death may be due to bronchopneumonia or to general sepsis, or it may be due to the overwhelming effect of the combined toxins of the disease in question.

OPHTHALMOLOGY.

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CHANGES IN REFRACTION.

Doctor S. D. Risley, in a paper read before the College of Physicians of Philadelphia in February, makes the following statement:

"In my early experience I had come to believe that, except in the presence of certain more or less well defined pathologic conditions, the static refraction of an eye was a fixed or practicly immutable quantity. That is to say, that where hypermetropia, with or without astigmatism, was demonstrated under a rigid paralysis of the accommodation, that later measurements made in the same manner would demonstrate the same static refraction as was found in the first examination. In the routine of practice, when recorrections of ametropia after the lapse of time were for any reason found necessary and a change in the refraction was found, that is, an increase in the hypermetropia, a diminution or an increase in the amount of astigmatism or a required change in the dierction of the axis of the correction cylinder, I invariably ascribed the change to an error in my first determination. It is probable that many ophthalmic surgeons, myself among the number, are still prone to explain the marked changes which must often be made in the correcting glasses made by a colleague, to careless or inaccurate work. The purpose of this study is to show that this is not necessarily true and that therefore we should view with a broader charity our own earlier work and that of others working in the same field. I still believe that in the vast majority of instances no change occurs in the static refraction of healthy eyes but that there are numerous exceptions to this rule cannot be open to question."

He then cites several cases in proof of his position.

A SIMPLE AND CONVENIENT METHOD FOR THE MOUNTING OF MACROSCOPIC SPECIMENS.

Howard McI. Morton, M. D. (*Ophthalmic Record*, January, 1903) gives the following method for mounting specimens:

(1) Harden the fresh specimen in ten per cent formalin for from two to four days.

(2) Cut the eye as you desire to mount it. If to show the posterior or anterior segments, cut equatorially and if to show the lateral or longitudinal eye cut meridionally.

(3) Wash in distilled water for ten minutes.

(4) Dry specimen carefully with a cloth (if it is desired to remove the retina, this may be done with a cloth or small brush).

(5) Make the eye fast to back of the glass mounting jar with gelatin (simply mix the gelatin with a little water and heat slowly for a few hours or over night).

(6 After the specimen is fixed to the posterior wall of the cell let it dry for two or three minutes until sure it is well attached.

(7) Fill the glass jar with ten per cent (or even four per cent) formalin in watery solution.

(8) After very thoroughly drying the top of the cell fasten it down with gutta-percha cement. One may also cement a small clasp on the top of the glass jar to hold the label.

(9) Paint the edges and cover the gutta-percha with white (or any color) paint.

LARYNGOLOGY.

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TONSILLITIS LOCALIZED IN A SUPERNUMERARY TONSIL.

Fayette C. Ewing (*The Laryngoscope*, January, 1903) reports a case in a man, aged thirty years. Examination revealed, between the posterior pillar and the pharyngeal wall, a well-developed tonsil, inflamed and protruding beyond the outline of said pillar, and presenting all the appearances of a tonsil affected by simple inflammation. This tonsil was typic in its characteristics, was well within the outline of the pillar, and would have excited no comment had it been located in the normal position, for it harmonized with Bosworth's definition that tonsils which protrude beyond the outline of the pillars are pathologic. The common faucial tonsils were normal. The patient gave no history of frequent amygdalitis, and the natural appearance of the tissue, its freedom from crypts and follicles, contraindicated a frequent inflammation of this supernumerary gland. The inflammation pursued a simple course, producing lassitude, headache, et cetera, without fever, and terminated in resolution, leaving a gland the size of an ordinary almond, and about one-half as thick and visible to the eye, without retraction of the posterior pillar.

THE DEGENERATE TONSIL.

Edwin Pynchon (*Journal of the American Medical Association*, Volume XL, Number XII) calls attention to the so-called process of absorption of the tonsils, which in later years give rise to various malconditions. This low grade of chronic inflammation is generally manifested by a discharge of cheesy secretion from the crypts, which is continuously taking place and which, when most noticeable, is known as chronic lacunar tonsillitis. Retained secretions in the supratonsillar fossa may, at any time, develop either a follicular tonsillitis, or a peritonsillar abscess. Some of the results of chronic disease of the tonsils are gastric disturbances, nasopharyngeal and bronchial catarrh and enlargement of the cervical glands.

In examining a throat wherein degenerate tonsils are present, a heightened color or increased redness of the fauces is first noticed, and an arched line leading downward on either side from the base of the uvula is invariably observed. This line curves downward on either side near the vertical center of the more or less hypertrophied anterior pillars, and quite clearly outlines the top and anterior edge of the submerged tonsils. The forward ends of the arched line are made more distinct by causing the patient to gag, at which time the line of demarcation between the red within and the pink outside thereof becomes more clearly visible.

While the patient is gagging the outlines of the submerged tonsil can be easily recognized through or beneath the anterior pillar, and by traction on the tonsil when grasped by a suitable forceps it can often be made to move about beneath the anterior pillar so its outlines can be seen to change. Pressure on the tonsil at this time with the finger, or with a suitable blunt instrument, will generally cause the escape of a mucopurulent secretion, or of "cheese balls," which, when flattened by pressure between the thumb nails, emit a fetid odor. Frothy saliva often covers the parts and with a new patient the fauces are generally hypersensitive, though sensitiveness can usually be overcome by the frequent practice of a drill in faucial manipulations so that after a few days a sufficient tolerance is attained to permit of operative treatment.

The treatment advocated is the dissection out with a galvanocautery knife of all the diseased tonsil.

DERMATOLOGY.

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THE ETIOLOGY OF ACNE VULGARIS.

In an exhaustive article (*Journal of Cutaneous Diseases and Syphilis,* March, 1903) Professor T. C. Gilchrist, of Johns Hopkins, considers the investigations to determine the constant presence of a bacillus in acne lesions as its definite cause, giving history from 1893, when Unna discovered what he called the acne bacillus in comedones and acne pustules; the work of M. Hodora, in 1894; of Lomry, in 1896; and the well-known investigations of Sabourand, in 1894, who formed opinions opposite to Unna, namely, that seborrhea was the primary disease and comedones secondary, whereas Unna believed the reverse was the case. Sabourand believed that the acne pustules followed the comedones as the result of secondary infection, and that a microbacillus, identical with Unna's acne bacillus, is the cause of seborrhea.

Gilchrist states that until 1899 no observer had succeeded in obtaining the acne bacillus pure from lesions of acne vulgaris or comedones, and there was no proof that this bacillus was the cause of acne vulgaris. He refers to a paper entitled "A Bacteriologic and Microscopic Study of over Three Hundred Vesicular and Pustular Lesions of the Skin, with a Research upon the Etiology of Acne Vulgaris," which he read before the American Dermatologic Association in May, 1899, and in which he stated a special bacillus was shown to be present in all the smears from ninety-six pustules from fifty-five patients, et cetera, and reviewed work to date, giving in detail methods and results of investigations at too great length to embody in an abstract that would do justice to the valuable research. Summarizing the result of his investigations thus far, he concludes:

(1) A definite bacillus, which I have already named bacillus acnes, was present in all smears taken from two hundred forty typic acne lesions from eighty-six patients.

(2) Pure cultures of the bacillus acnes were obtained from sixty-two lesions (chiefly acne nodules) from twenty-nine patients, eighty-two cultures being sterile (about seventy of which were sterile because the proper media were not used), and the remainder showing either a growth containing the bacillus acnes mixed with the staphylococcus pyogenes or epidermis albus or the latter organism in pure culture.

(3) Sections of an excised comedo, of an early acne papule, of an acne pustule, and of five acne nodules from six patients demonstrated the stages of the disease.

(4) Bacilli acnes have been shown to be pathogenic in mice and guinea pigs.

(5) The bacillus is short and thick in the smears but in culture it often becomes longer and thicker and in old cultures assumes distinct branching forms.

(6) By the clumping of the bacilli acnes by the sera of patients affected with acne vulgaris it is to be inferred that a specific toxic body derived from the presence of the bacilli in the tissues is absorbed by the blood, resulting in the production of a specific agglutination.

From these results, he deduces that it seems to be now definitely proved that this microorganism, bacillus acnes, is the primary cause of acne vulgaris. The organism is always present in the lesions. Pure cultures have been obtained direct from the lesions many times (sixty-two). It is pathogenic in animals and it has been demonstrated that the blood serum of acne patients agglutinates these bacilli.

In consideration of these findings he suggests the pertinent inquiry —"Whether we are not taking a wrong view in considering anemia, constipation, headache, coated tongue, et cetera, as always predisposing causes of acne vulgaris, whereas these symptoms may be the result of the continued absorption of toxins from the enormous number of bacilli present in all the lesions. As far as the principal is concerned, the disease may be compared with erysipelas." He discusses, with discriminating criticism, the work of Sabourand, who, he states, makes no mention of his (Gilchrist's) investigations on acne vulgaris published two years prior to Sabourand's.

THERAPEUTICS.

BY DELOS LEONARD PARKER, PH. B., M. D., DETROIT, MICHIGAN.
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OBSERVATIONS UPON THE HYPNOTIC EFFECTS OF HEDONAL.

FREDERICK L. HILLS, M. D. (*Therapeutic Gazette,* March, 1903) gives an account of his experience with hedonal used as an hypnotic. He says he has employed this drug for a period extending over two years and has come to look upon it as an hypnotic of greater value than either sulphonal or trional. He says its action does not continue as long as that of paraldehyd or chloral, but that it is safer than these remedies. He also says it is devoid of ill effects and can be employed in the presence of valvular heart lesions.

"Its field of usefulness is in cases of neurasthenia, hypochondriasis, melancholia of the milder type, and various nervous diseases attended by insomnia without marked mental excitement or great motor restlessness."

Doctor Hills has never administered the drug for more than four successive nights, yet, judging from the readiness with which it is eliminated, he thinks the danger of a cumulative effect is nil.

The remedy should be given shortly before bedtime and preferably in the form of the dry powder washed down from the tongue with hot water. The dose of hedonal ranges from fifteen to forty grains. The best effect is obtained ordinarily from doses of twenty to thirty grains. Occasionally there is some complaint of the taste of the drug.

The hypnotic effect usually comes on in from one-half to one hour after administration and continues from four to eight hours. The sleep produced is quiet and restful.

Doctor Hills reports in detail twenty cases in which he has used hedonal as an hypnotic and in addition to finding satisfactory results so far as the production of sleep was concerned, says: "All of these cases have been watched for any unfavorable or disagreeable effect which the drug might produce, but nothing whatever has been noted—no drowsiness, heaviness, or subjective sensations of cranial discomfort have been experienced. Neither has there been any digestive disturbance. The respiration and heart action have in every case been unaffected."

EDITORIAL COMMENT.

THE NEW ORLEANS MEETING.

CONTRARY to expectation the attendance at the fifty-fourth annual session of the American Medical Association at New Orleans, May 5-8, 1903, was very large, numbering more than two thousand, and the climatic conditions were exceedingly comfortable. Those who remained at home in dread of the weather and possibly crowded hotels may well nurse their disappointment. All the hotels were filled to the utmost but there were no complaints of uncomfortable accommodations.

The meeting opened with addresses of welcome and responses thereto, which were especially felicitous, after which the chairman of the Committee of Arrangements, Doctor Isadore Dyer, made his report. Those who have had experience in the preparations for such gatherings know well the difficult character of such stupendous undertakings, and all can only feebly express their own gratification at the completeness of the arrangements made. The meeting places for the sections, the exhibit hall, the pathologic exhibits, the receptions at the Saint Charles and at the homes of Mrs. Cartwright Eustis and Mrs. Maurice Stearns, the section dinners and smokers, the fête champêtre in honor of the President of the Association, Doctor Frank Billings, the tours in and about the city for the entertainment of the visiting ladies, and finally the river excursions, indicate the generous and solicitous feelings of the profession of New Orleans for the comfort and pleasure of the visiting members.

The president's address, the orations on surgery, on medicine, and on state medicine, and in fact the papers and discussions rendered in the work of the several sections were as a whole unusually interesting and practic, and were relieved and enhanced by other informal occurrences. Portraits of two ex-presidents of the Association, Doctor T. G. Richardson, of New Orleans, and Doctor Hunter McGuire, of Richmond, were fittingly presented respectively by Doctor Edmond

Souchon, of New Orleans, and Doctor W. L. Rodman, of Philadelphia, and accepted by the Association for its Hall of Fame. A loving cup was presented to Doctor Alonzo Garcelon on his ninetieth birthday in token of the veneration of his many friends.

One feature for which the meeting will long be remembered was the abandonment of the old "Code of Ethics" and the adoption of the "Principles of Medical Ethics." From the new viewpoint, the County Medical Society as the unit in the whole organization was made legatee and executor of this matter. The "Principles of Medical Ethics," which the House of Delegates adopted for the Association, is a document with broad, liberal views, suggestive and advisory toward the state and county organizations.

The meeting was a good test of the new mode of doing the Association's business. The section work was not compromised for the old general sessions, and yet the immense amount of business carried over from year to year and springing up with each year, was dispatched with fair consideration. The officers and delegates necessarily sacrifice much time from the section work, for which they are considered to be recompensed by the honor and responsibility attached to their appointments.,

Incidentally the occasion was both pleasurable and educational. As one of the older cities having historic associations connected with our own history and stretching back even to Spanish supremacy, as one of the old centers of southern national life before and during the war, and as the metropolis of the south, New Orleans presents features full of genuine interest. Contact with her hospitable people for even the short while of the meeting could not but arouse a mutual sympathy, making us of the north more generous toward them and inspiring them with a renewed hope of brotherly feeling.

THE SMALLPOX PARASITE.

THE report of the discovery of the so-called smallpox parasite is destined to create much interest, but because of the experiences of the past regarding certain cell inclusions which were thought to be living organisms and the cause of cancer, and which have since been proven to be of no significance in the etiology of the disease, many are lead to regard with great reserve the reports of Doctor Councilman and his associates, notwithstanding the high esteem in which this investigator is held and the valuable contributions to medical science he has made during the past decade.

Gaylord's somewhat exciting reports of the discovery of the so-called cancer parasite, which spread like wildfire over the land, is an example of a house built upon the sand: and the rain descended, and the floods came, and the winds blew, and beat upon the house; and it fell, and great was the fall of it.

It is certainly not the wish of Doctor Councilman's friends nor of any scientific worker that his beautiful theory should meet such fate. Nothing could evoke greater appreciation from the medical world than the solution of the etiology of this detestable malady, which, it would seem, has close relation to other infectious diseases whose nature is as yet unknown. However, the age is one that encourages skepticism and we are at least safe under its guardianship pending further developments bearing on the etiology of cancer. D. M. C.

CONTEMPORARY.

CONCERNING "SCHOOLS" OF MEDICINE.

[SAINT PAUL MEDICAL JOURNAL.]

THAT there exists in the minds of very many persons in all communities a prejudice against, and an antipathy to, rational, scientific medicine cannot be denied, and yet many of these same persons would admit—do constantly admit, that humanity owes more to modern medicine than it does to any other department of human knowledge. Why is this so? We believe that it is largely because the majority of people still cherish that old delusion that all medicine is dogmatic and sectarian. That there are "schools" and "sects" among some of those who practice the healing art, is unfortunately true, and this fact makes it hard for the people to understand that all physicians do not belong to, or believe in, some of these "schools." Those who founded and who still profess to believe in the homeopathic delusion have done much to reinforce and to maintain this belief in schools of medicine. We hear on all sides, men talking learnedly of "homeopathy," "osteopathy," "hydropathy," "vitopathy" and "allopathy." The first question asked concerning a physician is apt to be "what school does he belong to?"

The misconception has been so firmly rooted that even some physicians who do not belong to any of the actual schools of medicine which do exist, will permit it to be said of them that they belong to the "regular school" or even, though more rarely, to the "allopathic school," which does not exist. Imagine a sectarian engineer, astronomer, mathematician or electrician! Scientific medicine is none the less founded upon truth, none the less abhorrent of sects and schools than are the other sciences, and yet while the absurdity of a sectarian astronomer, mathematician or engineer would be at once apparent, people do not see the absurdity of a sectarian practician of medicine. We even hear of homeopathic surgeons and homeopathic oculists; whether osteopathic oculists have yet come into being or not we do not know. Can anything be more absurd than the sectarian fitting of glasses or performing of surgical operations? It surely ought not to be impossible to make the individual of average intelligence understand that medical science, while not an exact science, is a true science, and that an established fact in medicine is a truth which has been demonstrated by scientific methods and that it belongs to no school or sect, but to the whole world. When the people thoroughly understand these things, "schools" of medicine will cease to exist, and there are not wanting many signs that "schools" are passing rapidly. We should be glad to see some broad, influential newspaper discuss this subject intelligently, for medical journal and medical society discussions do not reach the people.

MEDICAL NEWS.

THE DEMISE OF DOCTOR KLEIN.

Doctor Peter Klein, a pioneer German physician of Detroit, and a well-known resident of this city, died on the 15th of last month in the ninetieth year of his age, having been born at Oermingen, canton of Saar-Union, department of the Lower Rhine, Alsace, France, September 12, 1813. He immigrated to America with his mother and stepfather in 1828, consuming eighty-eight days en route from Havre de Grace. They settled on a farm near Buffalo but Peter was not disposed to continue the pursuit of agriculture, and soon proceeded to the city, where he elected the vocation of physician. After four years' study he practiced medicine in Buffalo, Rochester, and Saint Catharines, Ontario. In 1844 he matriculated in King's College, Toronto, and two years later was graduated from the medical department of this institution. From this date (1846) until within a few years of his death he was a successful practician of Detroit. In 1847 he was physician to Wayne county, and from December, 1863, to May, 1866, he rendered service in the United States army, being surgeon-in-charge of the barracks at Detroit. In 1869-70 and 1875-6 he was a representative in the legislature from Wayne county. He was instrumental in establishing and shaping the policy of the *Michigan Volksblatt,* the organ of the German Democrats of Detroit, which was launched in 1854. A widow and several grandsons and granddaughters survive him.

THE GIFT OF AN AMBULANCE.

Through the liberality of the professional and business contingent of Traverse City, Michigan, the Common Council of that municipality lately became the recipient of a handsome and finely-equipped ambulance. These enterprising citizens subscribed five hundred dollars, and the hospital carriage, which is one of the best Studebaker manufacture, was presented to the city with a clear bill of sale. It was purchased from Doctor Hurley, who was about to move away, and in consequence of the expected change was procured at a great bargain. The Elks of Traverse City resolved at a recent meeting to maintain free of cost to the city the interior furnishings, equipment, and appliances necessary for the ambulance during the first year. Blankets, cots, stretchers, bandages, splints, et cetera are contemplated in the resolution. The new acquisition is expected to be in readiness for public call, and in accepting the gift the city obligated itself to render prompt service.

GUARDIANS OF PUBLIC HEALTH.

The regular meeting of the Michigan State Board of Health was held in Lansing, April 10. Honorable Frank Wells, of the capital city, was reelected president of the board for two years, a position he had filled for a decade. The term of office of two members of the board had expired and Governor Bliss appointed Frank Wells to succeed himself and C. M. Ranger, of Battle Creek, to succeed Doctor Belknap, of Benton Harbor. The secretary, Doctor Henry B. Baker, announced that two sanitary conventions and a conference of health officers had been held during the year, the former at Cheboygan and Pontiac and the latter at Ann Arbor. The board held three meetings for the examination of embalmers who sought license to ply their vocation, applicants being examined at Lansing, Escanaba, and Battle Creek. Doctor Vaughan rendered a report as a special committee on rabies, stating that the malady was very prevalent among cattle, hogs and other domestic animals in the lower peninsula of Michigan. Many dogs and children had been bitten and one child succumbed to the disease at Saginaw. Six persons were being treated for hydrophobia at the Pasteur Institute of the University of Michigan. The course of treatment requires three weeks. Residents of Michigan are treated gratuitously, but room and board are not supplied free by the University.

SOME CONSEQUENCES OF TUBERCULOSIS.

According to two French phyiscians, Doctors Anglade and Chocraux, tuberculosis is a cause of insanity, idiocy, epilepsy, et cetera. In a recent contribution they declare "that tuberculosis occurs in an excessive proportion in the antecedents or present condition of persons affected with mental or nervous diseases." Some time ago Doctor Henry B. Baker, Secretary of the Michigan State Board of Health, wrote a paper on "Sanatoria for Consumptives," in which he anticipated the statements of the French investigators in the following sentences: "Nearly every state institution for which large sums of money are appropriated would be influenced by a measure which would restrict tuberculosis. Every asylum for the insane contains inmates having tuberculosis, and I believe that some of the inmates are insane through influences connected with past or present tubercular disease in some parts of their bodies. * * * Many of the insane, the deaf and dumb, and the feeble-minded are thus helpless because of tubercular meningitis and other forms of tubercular disease. * * * And a sanatorium for consumptives would do much toward making such other state institutions as I have mentioned unnecessary."

EYE DISEASE IN SCHOOL CHILDREN.

An idea of the prevalence of eye disease in New York may be gained from the estimate that in the district embraced in the lower east side of the city, from twelve to fifteen per cent of school children have trachoma. Nearly two thousand pupils have been excluded from the schools in Brooklyn since the 18th of last September because of eye disease, and throughout the entire city six thousand three hundred forty-seven pupils were dismissed because of some disease of the organ of vision. The Gouverneur Hospital was recently transformed into a hospital for the accommodation of patients afflicted with ophthalmic diseases, and within ten days over two thousand cases of trachoma in school children were received for treatment. Upward of one hundred operations were performed, and more were considered necessary but the great number of patients precluded operative procedure on other than the most severe cases.

IN MEMORIAM.

In the prime of manhood, at the zenith of his success, in the midst of a wide field of usefulness and endeavor, Doctor Hugo Lupinski departed this life, April 7, 1903; and,

Whereas, In the death of Doctor Lupinski the Academy of Medicine of Grand Rapids, as a whole and individually, has suffered an irreparable loss, in that his loyalty to the principles upheld by the Academy was unflinching, and his ability as a scientific physician lent value and dignity to its meetings; and,

Whereas, The community at large as well has lost a true citizen and a faithful public servant, possessed of strong convictions and the courage of them;

Be it therefore resolved, That we, the Academy of Medicine and members of this community, do hereby express our sense of loss and sorrow, in a full realization of the good works and noble traits of character of our lamented colleague and brother; and,

Be it resolved, That these resolutions be spread upon the records of the Academy, and that copies be furnished to the medical press, within the judgment of the Secretary of this society, and to the sorrowing family of Doctor Lupinski, in evidence of our sympathy and grief.

Signed,

CHARLES E. HOOKER, Chairman.
HENRY HULST.
PERRY SHURTZ.

GRAND RAPIDS, MICHIGAN, April 22, 1903.

MINOR INTELLIGENCE.

THE "Cure of Bilateral Cystic Kidneys with Autopsy" is the novel treatment announced for that renal condition in the program of papers recently issued by a progressive Michigan medical society.

DOCTOR THOMAS B. COOLEY is in charge of the recently established Pasteur Institute at the University of Michigan. The regents have appropriated the sum of three thousand dollars per year to maintain this department for the treatment of hydrophobia.

CONGRESS recently passed a bill allowing Mrs. Emily Lawrence Reed, the widow of the late Major Walter Reed, of the United States Army, a pension of one hundred twenty-five dollars per month.

DOCTOR FREDERICK MUELLER, the assistant to Professor Lorenz, has returned to this country from Europe. He will become a resident of Chicago, in which city he will have charge of an orthopedic hospital.

FIFTY thousand dollars have been donated by Mr. T. Sutton Timmis, of Liverpool, for the study of the cause and cure of cancer. The investigations will be made at the Liverpool Royal Infirmary and the laboratories of the University College at Liverpool.

DOCTOR KOULIABKO, of Saint Petersburg, who maintains that the heart of warm blooded animals can be made to beat as long as forty-four hours after death, recently succeeded in producing contraction of a heart which was removed from a child who had succumbed to pneumonia.

FIVE physicians of the Willard Parker Hospital, together with the superintendent of the institution and two attendants, were recently arrested in New York City for illegal voting. Under the law physicians who reside in hospitals and who accept compensation from the city are designated as paupers and therefore are not allowed to vote.

THE following appropriations for Washington institutions have been made by Congress: One hundred thousand dollars for the Providence Hospital; one thousand dollars for the Garfield Memorial Hospital; fifteen thousand dollars for the Washington Asylum Hospital; and ninety-nine thousand dollars for the Government Hospital for the Insane.

EIGHTY leading physicians of Chicago will erect a four hundred thousand dollar hospital in that city. This sum does not include land, furnishings or equipment. The building will be eleven stories high, will contain elegant suites and sumptuous wards, and is especially intended for wealthy people—those who consider comfort of more importance than collateral.

THE Grand Rapids Academy of Medicine elected the following officers at its annual meeting: President, Doctor Louis A. Roller; vicepresident, Doctor Charles E. Hooker; treasurer, Doctor Earl Bigham; secretary, Doctor John R. Rogers. The following physicians constitute the new board of directors: Doctors Orris E. Herrick, Alexander Campbell, Bessie Earl, James B. Whinery and Henry Hulst.

MISS MARY C. LOWELL, M. D., LL. B., of Boston, is supposed to be the only woman in the world entitled to pursue the professions of law and medicine by virtue of degrees and diplomas. She is the daughter of Colonel C. W. Lowell, who officiated in the capacity of adjutant-general of Louisiana during the reconstruction period, and a descendant of Chief Justice Parsons. She was the first woman assistant superintendent of the Maine State Hospital for the Insane, which position she filled for five years, after which she journeyed abroad and visited the hospitals of various European capitals. The love of study prompted her to elect a course in law, and she intends to procure two more degrees—Bachelor of Jurisprudence and Master in Chemistry.

THE Pennsylvania legislature has made appropriations of two hundred sixty thousand dollars each to the Jefferson Medical College and Medico-Chirurgical hospitals for the purpose of erecting new buildings.

THE Supreme Court of Massachusetts lately ruled that the Boston Medical Library is a charitable institution. This decision permits the library authorities to receive a bequest of fifty thousand dollars from the Billings estate.

SERVICES were recently held in memory of Doctor Horace Wells, the discoverer of ether, at Center church, Hartford, Connecticut. A memorial window has been placed in the church in remembrance of the doctor and his wife.

AN ordinance against spitting on street pavements has been promulgated by the health department of the District of Columbia. A law now in force prohibits this practice in street cars and public vehicles throughout the district.

THE Executive Committee of the PanAmerican Medical Congress has accepted the suggestion of the Argentine Republic to convene the fourth PanAmerican Medical Congress in Buenos Ayres in 1905, instead of 1903 as previously announced by the committee.

AFTER an epidemic lasting over a year the United States quarantine officers declare Manila free from cholera. During this period one hundred thirty thousand three hundred sixty-two cases and eighty-two thousand nine hundred fifty-five deaths have been reported.

IT is possible that the Isle of Pines may be converted into an international leper colony. A German scientific society has made proposals to the Cuban government for the acquisition of the island, the mineral springs of which are said to contain medicinal properties suitable for such a colony.

PHYSICIANS should exercise caution in prescribing the following drugs for nursing mothers, as they are eliminated by the mammary glands: Arsenic, bismuth, carbolic acid, cascara sagrada, castor oil, garlic, iodin, iron, jalap, magnesium sulphate, mercury, oil of copaiba, oil of turpentine, opium, potassium iodid, quinin, rhubarb, senna, strychnin, sulphur, volatile oils, and zinc.

THE fact that wood alcohol causes blindness is a matter of record. Recently the physicians of the New Orleans Eye, Ear, Nose and Throat Hospital observed that many of the patients entering that institution from country towns were afflicted with partial or total blindness. In seeking a cause for this condition the fact was disclosed that a cheap antiseptic, which had been employed throughout Louisiana, contained an enormous quantity of methyl alcohol, some of the specimens yielding, according to the analysis of the city chemist, thirty per cent of this product, an amount which rendered them unfit for internal employment.

RECENT LITERATURE.

REVIEWS.

PSYCHOPATHIA SEXUALIS.*

WITHOUT doubt this is the best work extant on this subject. It deals with the psychologic and physiologic facts of sexual life and their pathologic manifestations. ' It therefore appeals to the cleric and legal professions as well as to the medical. Each will find in it a mine of useful special knowledge.

*By Doctor R. von Krafft-Ebing. Authorized English translation of the tenth German edition by F. J. Rebman. W. T. Keener & Company, Chicago.

SAUNDERS' MEDICAL HAND-ATLASES: AN ATLAS AND EPITOME OF ABDOMINAL HERNIAS.*

ATLASES on special subjects are by no means numerous but the frequency of hernia renders this volume unusually acceptable. It is comprehensive in itself but is most advantageous as a supplement to the few exhaustive treatises that we already possess.

*By Privatdocent Doctor George Sultan, of Gottingen. Edited, with additions, by William B. Coley, M. D., Clinical Lecturer on Surgery, Columbia University (College of Physicians and Surgeons). With 119 illustrations, 36 of them in colors, and 277 pages of text. Cloth, $3.00 net. Philadelphia and London: W. B. Saunders & Company, 1902.

REFERENCES.

NEW BOOKS.

W. B. SAUNDERS & COMPANY announce the early issuance of books bearing the following titles:

"MYOMATA of the Uterus." By Howard A. Kelly, M. D., Professor of Gynecology in Johns Hopkins University, Baltimore.

"A TEXT-BOOK of Pathology." By Joseph McFarland, M. D., Professor of Pathology and Bacteriology in the Medico-Chirurgical College, Philadelphia.

"THE Practical Application of the Röntgen Rays in Therapeutics and Diagnosis." By William Allen Pusey, M. D., Professor of Dermatology in the College of Physicians and Surgeons, Chicago; and Eugene W. Caldwell, B. S., Director of the Edward N. Gibbs Memorial X-Ray Laboratory, and University of Bellevue Hospital Medical College, New York City.

"TUBERCULOSIS." By Norman Bridge, M. D., of Los Angeles, Emeritus Professor of Medicine in Rush Medical College, in affiliation with the University of Chicago.

"A TEXT-BOOK of Operative Surgery." By Warren Stone Bickham, M. D., Assistant Instructor in Operative Surgery in the College of Physicians and Surgeons, New York City.

"THE Care of the Baby." By J. P. Crozer Griffith, M. D., Clinical Professor of Diseases of Children in the University of Pennsylvania; Physician to the Children's Hospital, Philadelphia, et cetera.

"PRACTICAL Points in Nursing" for Nurses in Private Practice. By the late Emily A. M. Stoney, Superintendent of the Training School for Nurses, Carney Hospital, South Boston, Massachusetts.

"A TEXT-BOOK of Obstetrics." By J. Clarence Webster, M. D., F. R. C. P. (Edinburgh), Professor of Obstetrics and Gynecology in Rush Medical College, in affiliation with the University of Chicago.

"A TEXT-BOOK of Diseases of Women." By Barton Cooke Hirst, M. D., Professor of Obstetrics in the University of Pennsylvania, Gynecologist to the Howard, the Orthopedic, and the Philadelphia Hospitals.

"A TEXT-BOOK of Modern Therapeutics." By A. A. Stevens, M. D., Lecturer on Physical Diagnosis in the University of Pennsylvania; Professor of Pathology in the Woman's Medical College, Philadelphia.

"THE Vermiform Apppendix and its Diseases." By Howard A. Kelly, M. D., Professor of Gynecology in Johns Hopkins University, Baltimore; and E. Hurdon, M. D., Assistant in Gynecology in Johns Hopkins University, Baltimore

"THE Blood in its Clinical and Pathologic Relations." By Alfred Stengel, M. D., Professor of Clinical Medicine in the University of Pennsylvania; and C. Y. White, Junior, M. D., Instructor in Clinical Medicine in the University of Pennsylvania.

"MEDICAL Jurisprudence and Toxicology." By Henry C. Chapman, M. D., Professor of Institutes of Medicine and Medical Jurisprudence in Jefferson Medical College, Philadelphia; Member of the College of Physicians and Surgeons, Philadelphia, et cetera.

"A TEXT-BOOK of Legal Medicine and Toxicology." Edited by Frederick Peterson, M. D., Chief of Clinic, Department of Neurology, in the College of Physicians and Surgeons of New York City; and Walter S. Hains, M. D., Professor of Chemistry, Pharmacy, and Toxicology in Rush Medical College, in affiliation with the University of Chicago.

"A THESAURUS of Medical Words and Phrases." By Wilfred M. Barton, M. D., Assistant to Professor of Materia Medica and Therapeutics and Lecturer on Pharmacy in the Georgetown University, Washington, District of Columbia; and Walter A. Wells, M. D., Demonstrator of Laryngology and Rhinology in the Georgetown University. Washington, District of Columbia.

The Physician and Surgeon

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ORIGINAL ARTICLES.

MEMOIRS.

THE CHOICE OF METHODS IN THE TREATMENT OF CANCER.

By G. BETTON MASSEY, M. D., PHILADELPHIA.

THE first requisite in the treatment of malignant diseases of any kind is immediate action. A case of bubonic plague introduced into a large city is not more dangerous to the health of the community than is the first small appearance of a cancerous nodule to the general health of the individual affected. The certainty that the isolated infection in the nodule will give rise to daughter growths elsewhere in the body is so great that the common habit of procrastination on the part of patients can only mean that they have absorbed from the medical profession either a doubt of any method being efficacious in the disease, or the equally wrong and hopeless view that cancer is the "pointing" of a general constitutional affection. The onus in either case is laid at the door of physicians, and it is high time that we fully awaken to the issues involved and make it clear to ourselves as well as to our patients that this disease, whether parasitic or not, is strictly local at its inception and capable of eradication in this stage, and that the second stage of systemic invasion may occur at any moment after the implantation of the local disease. That the general invasion is usually postponed for weeks or months, in accordance with the individual virulence of the germ or cell, has apparently not stimulated our patients to immediate action in utilizing this fortunate interval but rather caused further delays, and it is to be feared that many physicians when consulted fail to realize the importance of this brief respite from actual metastasis, and the hopelessness of the case only after this extension has taken place.

It is too true that the interval between the appearance of the growth in a recognizable form and its internal dissemination may be so slight as to thwart the efforts of the most energetic, but what can be said in extenuation of the neglect that permits weeks or even months to elapse between recognition and action!

As to the method of eradication of an accessible growth seen in this curable, or so-called operable, stage, there can be no doubt in the mind of anyone who has witnessed the method of immediate destruction and sterilization by the massive cataphoric diffusion of mercury, introduced by the writer. The knife and curet have unquestionably the dangerous property of implanting the germs of the disease in the cut edges of the wound, unless, indeed, a far distant amputation is practicable. By the cataphoric method, applied under general anesthesia usually, the nascent oxychlorids of mercury and zinc are dissolved from electrodes thrust within the growth, causing an immediate, sterile necrosis of the growth proper and a sufficient dispersion of the germicidal salts beyond its apparent limits to sterilize the surrounding tissues for an inch or more. All morbid cells are killed *in situ,* those contained in the growth coming away as an inodorous slough, while the cells in the sterilized zone about the growth are absorbed as debris. When it is understood that this total destruction can be accomplished in from one-half to two hours, with practicly no after discomfort to the patient, it is evident that we are possessed of so ideal a method of eradication of this dangerous guest that we are no longer warranted in delaying a day in its accomplishment.

The choice between this method and *x*-radiation is a question of much greater importance in growths classed as inoperable. As a general rule, it may be said that a combination of the two methods is often here desirable, the cataphoric destruction being carried as far as possible, if it cannot be made to reach the furthest limits, followed by radiation as soon as the slough comes away, which happens in from seven to twenty-one days after the application. By this simultaneous attack, growths that are most extensive may be successfully coped with, the preliminary destruction and aseptic removal of the major portion by the cataphoric operation opening a way for deeper penetration of the rays, and at the same time preventing the absorption of toxins during the radiation of large growths.

When the growth is not so accessible, as in the case of those situated in the nose, mouth, vagina, uterus or rectum, the cataphoric method will usually have to be depended on alone, whether the case is classified as operable or inoperable.

A DAILY STUDY OF FOODS PRODUCING OR NOT PRODUCING CASTS, FATTY EPITHELIA, AND ALBUMIN IN URINE.

By EPHRAIM CUTTER, M. D., New York.

[CONTINUED FROM APRIL NUMBER.]

Please compare the urine with the preceding breakfast (B.), lunch (L.), dinner (D.).

February 1.—(B.): Beefsteak; codfish; coffee and cream; baked potato; corn bread; butter:

(L.): Roast beef; potato salad; water; Boston brown bread; butter; gravy.

(D.): Oyster roast; crackers; cheese; water; dates; English walnuts.

February 2.—(U.): Casts, both kinds; filamentous and protoplasmic catarrhs; bile.

(B.): Cold ham; coffee and cream; Boston brown bread; mince pie; cheese.

(L.): Consomme soup; turkey, dark meat; tea; mince pie; cheese.

(D.): Roast oysters; whole wheat (dextrosed*) and cream; English walnuts; dates; cheese.

February 3.—(U.): Almost normal, save color.

(B.): Mutton chops; fried eggs; coffee and cream; baked potato; corn bread and butter; water.

(L.): Beefsteak; baked potato; coffee and cream; water; whole wheat dextrosed and cream.

(D.): Roast beef; boiled potato; butter; coffee and cream; apple pie.

February 4.—(U.): Normal.

(B.): Hamburg steak; coffee and cream; beefsteak; baked potato; whole wheat mush dextrosed and cream.

(L.): Hamburg steak; coffee and cream; whole wheat mush dextrosed and cream; water.

(D.): Roast veal; baked potato; apple pie; coffee and cream.

February 5.—(U.): Almost normal, save bile.

(B.): Whole wheat mush dextrosed and cream; Hamburg steak; baked potato; horse-radish; cream.

(L.): Hamburg steak; coffee; baked potato; butter; Indian pudding.

(D.): Macaroni soup; roast mutton; baked potato; tea; beets; cream.

February 6.—(U.): Normal, save amyloid.

(B.): Hamburg steak; baked potato; coffee and cream; horse-radish; butter; whole wheat mush dextrosed and cream; Baldwin apple pie.

(L.): Hamburg steak; whole wheat mush dextrosed and cream; coffee; baked potato.

(D.): New England boiled dinner; water.

February 7.—(U.): Almost normal.

(B.): Hamburg steak; coffee and cream; whole wheat mush dextrosed and butter and salt.

(L.): Hamburg steak; coffee and cream; baked potato.

(D.): Soft clam chowder; baked codfish; coffee and cream; boiled onions; whole wheat mush dextrosed and cream.

February 8.—(U.): Almost normal.

(B.): Hamburg steak; coffee and cream; baked potato; butter.

(L.): Same as breakfast.

(D.): Pea soup; boiled corned shoulder of pork; boiled cabbage; boiled potato; mince pie and cheese; water.

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* Dextrosed = glucosed = to a sugar that perfectly produces red oxide of copper in the Fehling test. No malt, no chemicals. Process of the author.

February 9.—(U.): Albumin.

(B.): Hamburg steak; coffee; whole wheat mush dextrosed and cream.

(L.): Roast turkey, dark meat; gravy; baked potato; coffee; tomato; mince pie.

(D.): Cold corned shoulder of pork; water; cream; baked potato; citron preserve; butter.

February 10.—(U.): Normal, save amyloid.

(B.): Hamburg steak; whole wheat mush dextrosed and cream; horse-radish; butter; coffee and cream.

(L.): Hamburg steak; whole wheat mush dextrosed and cream; coffee.

(D.): Soup; roast beef; boiled potato; Lima beans; dates; mince pie and cheese; milk and water.

February 11.—(U.): Normal, save bile.

(B.): Hamburg steak; beefsteak; coffee; whole wheat mush dextrosed and cream.

(L.): Soup; two whites of eggs; beef stew; boiled potato; coffee; water; orange pudding.

(D.): Carrot soup; roast beef; green peas.

February 12.—(U.): Filamentous catarrh and kidney casts.

(B.): Banana; Hamburg steak; baked potato; coffee and whole wheat mush dextrosed, cream for both.

(L.): Hamburg steak; baked potato; whole wheat mush dextrosed and cream; coffee.

(D.): Chicken soup; roast mutton; milk; water; beets; boiled potato; cheese; crackers.

February 13.—(U.): Almost normal.

(B.): Hamburg steak; whole wheat mush dextrosed and cream; coffee.

(L.): Same as breakfast, with cheese.

(D.): Vegetable soup; roast beef; boiled potato; string beans; whole wheat mush dextrosed and cream; coffee; cheese; dates; white of egg.

February 14.—(U.): Normal, save bile.

(B.): Hamburg steak; coffee; whole wheat mush dextrosed and cream; baked potato; butter.

(L.): Same as breakfast, with white of egg; no wheat mush.

(D.): Veal cutlet; baked potato; cranberry sauce; onions; custard pie; water.

February 15.—(U.): Normal, save bile.

(B.): Hamburg steak; coffee and cream; whole wheat mush dextrosed and butter.

(L.): Same as breakfast, plus one-half baked potato.

(D.): Roast beef; baked potato; mince pie; cheese; turnip; water.

February 16.—(U.): Same as February 15.

(B.): Same as yesterday.

(L.): Preserved peach; cold ham and mutton; mustard; hashed potato; water; whole wheat mush dextrosed and cream.

(D.): Soup; roast beef; celery; boiled potato; string beans; turnip; mince pie; cheese; dates.

February 17.—(U.): Same as yesterday.

(B.): Hamburg steak; baked potato; coffee and cream; whole wheat mush dextrosed and cream.

(L.): Same as breakfast.

(D.): New England boiled dinner, with white of egg; cabbage; carrot; turnip; beet; water.

February 18.—(U.): Normal.

(B. and L.): Hamburg steak; baked potato; butter; coffee and cream.

(D.): Soup; roast beef; whole wheat dextrosed and cream; water; mince pie; nuts and raisins (a family reunion). Later a family meal of spiritual kingdom food, that is, music—much of it original.

February 19.—(U.): Normal.

(B.): Rump steak (beef); coffee and cream; whole wheat dextrosed and cream.

(L.): Hamburg steak; coffee and cream; whole wheat mush dextrosed and cream.

(D.): Chicken soup; roast beef; boiled potato; green peas; beet; graham bread; butter; coffee and cream; white of egg.

February 20.—(U.): Normal.

(B.): Hamburg steak; coffee and cream; whole wheat mush dextrosed and cream; pickles.

(L.): Chicken soup; cold roast beef; codfish; Indian meal griddle cakes; water.

(D.): Soup; roast pork chine; boiled potato; Lima beans; cranberry sauce; water.

February 21.—(U.): Normal.

(B.): Hamburg steak; butter; whole wheat mush dextrosed and cream; coffee and cream; pickles.

(L.): Hamburg steak; whole wheat mush dextrosed and cream; coffee; pickles.

(D.): Clam (soft) chowder; lettuce with vinegar; roast beef; plum pudding; coffee and cream separate; graham bread and butter.

February 22.—(U.): Normal.

(B.): Same as breakfast February 21.

(L.): Ditto.

Intermediate.—Dates.

(D.): Macaroni soup; roast beef; cabbage; potato; turnip, all boiled; water.

February 23.—(U.): Abundant true and false casts; bile; some filamentous catarrh and fatty epithelia.

(B.): Hamburg steak; whole wheat mush dextrosed; coffee.

(L.): Cold roast pork; baked potato; apple pie; butter; water; milk.

(D.): Roast lamb; string beans; baked potato; cranberry sauce; coffee; dates.

February 24.—(U.): Almost normal, save one or two casts.

(B.): Hamburg steak; coffee and cream; whole wheat mush dextrosed and cream.

(L.): Hamburg steak; whole wheat mush dextrosed and cream; coffee.

(D.): Pea soup; roast beef; boiled potato; lettuce, plain; graham bread and butter; dates; water.

February 25.—(U.): Almost normal.

(B.): Hamburg steak; coffee and cream; baked potato; whole wheat mush dextrosed and cream; water.

(L.): Same as breakfast.

(D.): Beef soup; boiled lamb and potato and Lima beans; celery; squash; pudding; cream; water.

February 26.—(U.): True and false casts; filaments of catarrh of the size of casts and long. Was the condition caused by the pudding?

(B.): Hamburg steak; baked potato; coffee; whole wheat mush dextrosed and cream.

(L.): Hamburg steak; baked potato; butter; bread; pudding; coffee and cream.

(D.): Tomato soup; baked white fish; roast pork; string beans; boiled potato; water; cream; apple pie; cheese.

February 27.—(U.): False and true kidney casts; cystin, probably due to the fish; slight bile.

(B.): Hamburg steak; coffee and cream; baked potato; butter.

(L.): Hamburg steak; baked potato; coffee; whole wheat mush dextrosed and cream.

(D.): Soup; boiled dinner of corned beef, beets, cabbage, carrot; tea; water; milk.

February 28.—(U.): Slight bile; otherwise normal.

(B.): Hamburg steak; black pepper; coffee; whole wheat mush glucosed and cream.

(L.): Same, save pepper.

Intermediate.—White of egg.

(D.): Clam chowder; roast mutton; onions; boiled potato; milk; water; prune pie and cheese; dates.

March 1.—(U.): A few false kidney casts.

[TO BE CONTINUED.]

THE NECESSARY COÖPERATION OF HEREDITY AND BACTERIOLOGY IN THE PRODUCTION OF DISEASE.

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THE object of this paper is to show the necessary coöperation of heredity and bacteriology in the production of disease, and that if the former were removed (an assumed possibility only) there would be no manifestation of the latter as a pathogenic factor.

Heredity, hereditary disease, and hereditary transmission are terms

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used to designate the same principle, namely, the transmission from an organism to its offspring of some peculiarity, trait or disease: the first with "likenesses" distinguishes the species; the second and last named are common to the genus. "The laws of heredity as understood in their entirety are that each plant or animal produces others of like kind with itself; this likeness being more a question of general structure than of particular traits."[1] While Mr. Spencer does not pretend to give a positive definition of heredity in his "Biology," he makes an excellent attempt to explain it by means of his mechanic theory, persistency of force and the tendency of all things organic to seek an equilibrium. Heredity is said to be the correlation of variation. Taken in its universal application, it applies with equal force to those processes known as diseases, as to likenesses and traits. A good definition of heredity is desirable.

According to Haeckel, heredity is the memory of the plastidules, variability their power of perception; the former brings about constancy, the latter diversity in organic forms. If heredity is memory and variability the acquisition of new experiences, and since memory enables the organism to recall past events that have occurred within its own life period, heredity might be called the memory of ancestral deviations as regards diseases; or making free use of Haeckel's definition, disease might be called the memory of ancestral sins. This may appear somewhat nonsensical, but it must be remembered that scientists of Professor Haeckel's attainments often pass long periods in the clouds. Our actions are of course governed by our experiences—to a great extent at least. And as experience depends wholly upon memory, to a certain extent it is true that life is memory. Again as the power to reproduce its like is characteristic of all living things, it is conceivable that this power is the memory, by the ovum, of the experiences of its ancestors, and that there exists in the ovum an organization of some kind which enables it to transmit likenesses as well as peculiarities and diseases from generation to generation.

It is also a well-known fact, founded chiefly upon the studies and researches of Charles Darwin, that secondary sexual characteristics of each sex lie dormant or latent in the opposite sex, in a condition to be evolved when necessary or under certain special circumstances. Let us quote from his work on Variation: "In every female all the secondary male characteristics and in every male all the secondary female characteristics exist in a latent state, ready to be evolved under certain conditions. For instance, it is possible for a good milking cow to transmit her good milking qualities through her male offspring to future generations, for we may confidently believe that these qualities are present though latent in the males of each generation. So it is with the game cock, which can transmit his superiority in courage and vigor through the female to his offspring."

It is a well-known fact that diseases peculiar to the male sex can be transmitted through the female to the grandsons. The history of the Plante family which came under my observation some years ago when I was practicing in Eastern Canada, is an illustration of this point. Israel Lemay died of pulmonary consumption which he had inherited from his father. He left a son and daughter, the latter of whom married Plante and six sons and five daughters were born to them. At the date of my leaving that part of the country five daughters had married and apparently were healthy; the elder Plante and his wife, then over eighty years of age, were both healthy; while the six sons had followed each other to the grave, the first dying from consumption in 1875, the last in 1892. One son had moved to another locality, and although one of the first attacked by the disease, was the last to die; the eldest had married and moved to another farm, and he died the last but one. Transmission of the disease through the daughter to the male grandchildren, leaving the female grandchildren and the mother untouched, is worthy of note; for it shows that diseases as well as traits may lie dormant in the system for a generation to be transmitted to the like sex in the descendants. The history of that family also shows the benefits to be derived from a change of environment in cases of tuberculosis.

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[1] SPENCER, HERBERT: "Biology."

Aristotle gives an account of a hen which had ceased laying and assumed the characteristics of the male bird. Other writers have recorded the same fact. Old hens which have ceased laying often acquire a comb, wattles, spurs, the brightly colored plumage and long tail feathers of the cock, assume the habits of the male and even learn to crow. Doubtless the proverb, "crowing hens lay no eggs," has arisen from observation of such facts. Female deer are known to have acquired the horns, hair, odor and sexual desires of the male. These facts and many others to be found in works on natural history, dealing with that complicated subject, heredity, show how traits and peculiarities as well as habits lie dormant in the system and may be evolved by the opposite sex to which they belong; they also show that they may be transmitted through the sex opposite to which they belong to the appropriate sex in the descendants.

We have all doubtless observed that to the age of puberty there is no difference between boys and girls as far as amusements and play are concerned, making due allowance, of course, for the mother's influence. The possession of a beard should be regarded as a general characteristic of our race, inherited alike by all boys and girls. The development in the female of the reproductive functions at or just before puberty arrests the development of the beard, leaving its power of growth latent in the system for transmission to the next generation, and, as we sometimes observe, to be reawakened to slight growth after the climacteric has been passed. In the same way enlargement of the breasts in the male is arrested at puberty by the development of the male reproductive powers. These facts in heredity apply equally to diseases; for instance, though chorea is not so common in the male as in the female, it, with hysteria and other disorders of childhood, is characteristic alike of boys and girls; while development at puberty of the reproductive functions has a tendency to arrest the disease in the former, it seems to increase it in the latter.

These facts show clearly that transmission of ancestral peculiarities or diseases, and to a certain extent, of acquired characteristics, forms an influence whose existence cannot be denied, and which in one way or another affects all mankind. For in reality all persons are born with a tendency to many diseases, although there are maladies to which some persons have a tendency, and others none whatever. Such tendency may be either strong and evident to the senses, or weak and faintly marked. It is seen in the former case in those subject to cancer, gout, rheumatism, insanity, spasmodic asthma and deafness; while in some barely perceptible skin diseases, nervous affections and certain cases of mental disorder it is so lightly marked as to be scarcely noticeable. Such slang expressions as "a little off," "slightly wrong in the upper story," "just a wee bit daft," et cetera, indicate this faintly marked departure from the normal. Physicians of all times have recognized the fact that diseases are transmitted from one generation to another, differing in no respect from other hereditary peculiarities. Moreover, a rigid examination of traits, peculiarities, deformities and diseases shows that they are all diseases or deviations from an impossible normal; in other words, that everyone has inherited from his ancestors, simian or human, something which varies from an imperceptible trait to a well-marked abnormality.

Epilepsy is a disease that has for ages arrested attention on account of its tendency to descend from father to son. Romberg says: "In families wherein epilepsy is a pathogenic entail, marriage of the members among themselves should be prevented, and the veterinary principle, of crossing with thoroughbred stock, introduced." In chorea, hereditary transmission of a special susceptibility to nervous irritability has been demonstrated. Mosler says: "Disease of the spleen of a peculiar, specially marked appearance occurs in one-fourth of all cases of hereditary syphilis." Speaking of phthisis pulmonalis, Ruehle says: "If the extent, form and mental qualities can be transmitted in families through generations, why should this not be the case with the conditions which produce a disposition to certain diseases?" Quoting from Charles Darwin's "Origin of Species," "The laws governing inheritance are for the most part unknown. No one can say why the same peculiarity in different individuals of the same species is sometimes inherited and sometimes not; why the child often reverts in certain characteristics to its grandfather or more remote ancestor; why a peculiarity is sometimes transmitted from one sex to both sexes, or to one sex alone, more commonly to the like sex. But hereditary diseases and some other facts make me believe that the rule has a wide extension, and that when there is no apparent reason why a peculiarity should appear at a certain age, it does tend to appear in the offspring at the same period at which it first appeared in the parent."

I believe the rule to be of the highest importance in embryology. Let me cite some instances of hereditary transmission. Herbert

Spencer, in his "Biology," mentions the six-fingered Gratio Kellia, who transmitted his peculiarities to several of his children and to some of his grandchildren. The same writer quotes Doctor Struther's description of a woman who had six fingers on one hand and who bequeathed the malformation to some of her descendents for two, three and even four generations. A man inherited from his father an extra digit on each hand and one on each foot. Another who had six fingers and six toes had an aunt and grandmother similarly formed. There are many recorded instances of transmission from one generation to another of an extra digit, ear, and other organs of the body. Malformations of the external ears, webbed fingers and webbed toes have been perpetuated in the offspring; peculiarities of the skin and its appendages have been transmitted; for instance, every member of a certain family had a lock of hair on the top of the head of a lighter color than the rest. Hereditary baldness is well known. Entire absence of teeth, absence of particular teeth, extra teeth and anomalous forms and arrangements of them are recorded as having been transmitted.

The inheritance of such diseases as gout, rheumatism, consumption and insanity is universally admitted. Icthyosis, leprosy, sebaceous tumors, plica polonica, dipsomania, somnambulism, catalepsy, epilepsy, asthma, apoplexy, elephantiasis and a long list of nervous affections are known to be transmitted from one generation to another. According to Herbert Spencer, a bias toward suicide appears to be hereditary.

It cannot be denied that parents transmit to their children developments of structure caused by augmentation of function; otherwise it would be impossible to explain the fact that Bach, Mozart and Beethoven were all sons of musical men. In them the law of evolution, progress from the simple to the complex, or from the general to the special is fulfilled, the children having improved upon their parents. Haydn was the son of a famed organist and Weber's father was a distinguished violinist. Herbert Spencer, who mentions these instances of the fact, says of them: "The occurrence of so many cases in one nation within a short period of time, cannot rationally be ascribed to the coincidence of spontaneous variation; it can be ascribed to nothing but inherited developments of structure caused by augmentation of function."

The tendency of drunkards to transmit to their offspring a love for stimulants is an instance illustrative of this point. Although it is not generally believed that diseases are transmitted directly from parent to offspring, nevertheless it is an accepted fact that the tuberculous patient transmits something to his descendants; it may be a tendency to certain forms of disease or a peculiar weakness of bodily construction in certain directions, or it may be a diminuition of the *vis medicatrix naturae*. While we cannot state just what it is that is transmitted, we know that a marked susceptibility to the action of various external agencies is the heritage of the man whose parents on one side or both have been afflicted with tuberculosis, rheumatism, insanity, et cetera.

It is not claimed that the offspring always suffers from parental sins or diseases, for inheritance is not always manifested even for several generations; and it may be held without reserve that the man who leads a normal life, will by his moderation and good habits overcome any hereditary disease, provided always that his environment corresponds with his mode of living.

It has been stated that consumption may be produced in persons previously healthy by poor and insufficient food, by foul, damp air in badly ventilated habitations, by drinking impure water, and even by long continued anxiety. Of this I am doubtful. I admit the evil tendencies of the unfavorable conditions mentioned, but I am inclined to think that a more thorough search into ancestral history would reveal a tubercular taint more or less remote. Otherwise we should have to admit the existence of two or more kinds of tuberculosis. I am not a believer in a complex nosology. I prefer one form of tuberculosis, of hereditary nature, brought into action by some exciting cause in a suitable environment.

Continued experience more than ever convinces me that in hereditary syphilis we have a factor which plays a more important part in the causation and spread of diseases of malignant type than has been generally supposed. Syphilis is one form of disease in the parent that may lead to many, apparently widely different, forms of disease in the descendants. It has been shown that one tuberculous parent has bequeathed cancer, another rheumatism, another insanity and so on. As stated by Austie:' "The nervous enfeeblement produced in an ancestor by great excess in drink is reproduced in his various descendants with the effect of producing in one insanity, in another epilepsy, neuralgia in a third, and alcoholic excess in a fourth." From this we conclude that in Austie's day physicians had changed their opinions from the old belief in the direct transmission of disease, as being exaggerated to a more rational view of heredity. Based upon the Mosaic law that the sins of the fathers should be visited upon the children unto the third and the fourth generation, the old belief that pulmonary consumption, the cause of death in the parent, attacks the lungs of the children with the same disease, that the gouty ancestor is represented by gouty descendants, and so on, held undisputed sway over men's minds for centuries, and although it can be traced still farther back in past ages, it has not been abandoned but modified or more correctly interpreted.

Many theories of heredity have been offered, such as the doctrines of animism, physiologic units, heredity as motion or memory, Haeckel's perigenesis, Darwin's pangenesis, idioplasm, germ plasm, continuity of germ plasm, evolution and epigenesis. What is the nature of the influence transmitted from parent to offspring? It is a tendency, an impulse to repeat in the offspring some change caused by a disturbance of the organic harmony of growth and development in the parents. To illustrate: The shell of an oyster or snail is a purely inorganic structure. It forms no more a part of the living substance of the animal than the shell found and occupied by the hermit crab; but parent and offspring produce it alike. It is necessary for the protection of the oyster or snail; its production from generation to generation is heredity illustrated in normal structures. The hard, rapidly-growing scirrhus in the breast of a woman is in no way necessary nor beneficial to the unfortunate victim. Its occurrence in the parent and its reappearance in the offspring is heredity illustrated in disease. Therefore it is not the shell itself but a tendency to build the shell that is hereditary; it is not the disease carcinoma itself, but a tendency to form or build up those neoplastic structures constituting the essence of the disease that is hereditary. Consequently this hereditary tendency has nothing to do with changes caused in the organism by insufficient food, overwork, unhealthy surroundings, and impure drinking water. It is an independent tendency from whose influence no organism is free. By means of it man is compelled to transmit to posterity, through his own flesh and blood, ancestral traits, peculiarities, and diseases; his own special virtues and vices and acquired diseases; beauty of face or moroseness of temper; acquired skill in speaking, painting and singing; and, in short, all actions whether mental or physical, which are powerful enough to impress themselves upon the organic system.

Since each organism which is born from a seed or an egg is the resultant between two forces, heredity and variation; or, to state it somewhat differently, since each organism is a mean between the principle of adhesion to existing conditions, we have to consider the causes of diseases as resulting from the effects upon the organism of hereditary transmission and environment, or heredity and bacteriology. It is just as impossible to consider the causes of diseases and their manifestation upon the organism without heredity, as to attempt a system of public hygiene without bacteriology.

Of the many diseases known to be of hereditary nature, such as leprosy, goitre, cretinism, gout, scrofula, tuberculosis, cancer, scaly cutaneous diseases, rheumatism and the neuroses—insanity, epilepsy, chorea, hysteria and asthma, in a few only has a special bacillus been isolated and cultivated; but it should not be forgotten that it has never been found excepting in patients afflicted by the disease to an extent more or less advanced and supposed by the exponents of a microbic origin of all diseases to be caused by germs. How is the trait, likeness, peculiarity or morbid tendency transmitted from generation to generation? We have Darwin's theory of gemmules (pangenesis), and many others: some of them of remote origin. Weiseman's theory that transmission is effected by means of the germ plasm, through the activity of his so-called "determinants," is attractive, but has not been received with favor by Haeckel and other authorities.

The fact that in the protozoa multiplication generally occurs by means of self-division, the little organism merely dividing into two equal or unequal parts, in which it is impossible to assign to either the position of parent or daughter cell; while each part grows into a perfect animal, in all respects precisely similar to the parent cell shows that Professor Weiseman does not exaggerate when he says that in consequence of their simple mode of reproduction by division, the portozoa are immortal, and if there is no limit to the duration of material things on this planet, if matter and organic life are eternal, the expression, "terrestrial immortality," is not incorrect.

Now the difference, from a cell point of view, between a simple protozoa and the highest vertebrate animal consists in specialization of cells for division of labor; for in the latter, the greater number of cells intended for the building and maintenance of the various organs of the body are called somatic cells, while a limited number intended for reproductive purposes are known as sperm and germ cells. The somatic cells enter into the formation of the most complicated organs, whose functions are even more complex; they have to produce the various substances necessary to organic life; they have to separate the various substances inimical to organic life; and it is stated that they have to produce thought and mental emotions. This complex metamorphosis results in their early death, hence they reproduce themselves quickly. The reproductive cells, sperm and germ cells, are only concerned with the propagation of the species. Their growth is by division precisely like the protozoa, hence they are just as likely to be immortal and to pass from father to son, and from generation to generation as the simple pròtista. It is not a severe strain upon the imagination to conclude that the sperm and germ cells of man are exactly similar, physiologicly and morphologicly, to their prototypes, the unicellular protozoa, are therefore immortal, and capable of transmitting from generation to generation likenesses, various traits, peculiarities and diseases. That cancer, for instance, is transmitted from parent to offspring, or by the principle of telegony, to a more remote descendant, by means of the germ plasm, forms, according to my judgment, the best theory that has been offered in explanation of the mystery of heredity, for it begins with the conjugation of two cells, one or both of which, as the case may be, stamped, so to speak, as cancerous. Now the union of those two cells results in the formation of a new cell whose continued growth by self-division and development leads to the production of an organism which differs from the organism resulting from the conjugation of sperm and germ cells free from the cancerous impress, in this: A condition exists in the former which does not exist in the latter; the former is predisposed to cancer; the latter is not. What is this unknown condition or tendency?

The Roentgen light rays were called *x*-rays. In like manner, let us call this condition or tendency, which is the essence of heredity, the *x*-condition, one of the properties of which is that, in an organism thus endowed, certain exciting causes acting in an unhealthy environment, produce a nidus for the entrance and multiplication of bacilli, as yet, however, unknown, which appear to have a special affinity for it; or, in other words, it becomes favorable for the growth of a cancer. But this condition will not necessarily manifest itself in any way whatever unless environment is favorable and an exciting cause comes into operation. A severe blow upon the breast or a fall in which the same organ in the female receives the blow, is the exciting cause, which in the hereditarily inclined may lead to the growth of a cancer. These facts show the relationship existing between and dependance upon each other of heredity and bacteriology.

The fact that hereditary impressions may remain dormant in the system for several generations, to appear in some remote descendant, inclines me to doubt the possibility of acquiring tuberculosis or any so-called hereditary disease; such cases, in my judgment, being those of hereditary disease in which ancestral history has not been fully ascertained. Moreover, the fact that cases of consumption occur in which no tubercle bacilli are found, coupled with the reverse case, wherein in certain affections of the throat and lungs, the same bacilli have been found in large numbers in the patient's expectoration, without there being a symptom or even any appearance of tuberculosis, strengthens my argument: for such cases show the dependence of bacteriology upon heredity, and the importance of environment as a factor in disease. We do not always sufficiently appreciate the full meaning of the term environment. The organism is the embodied environment, whether the latter be upon the surface of the earth, in the depths of the sea, or in the body of another organism. In chemic composition it differs but little from its environment and that slight difference may be seen in living protoplasm, of which we have considered the lowest living form, the unicellular protista, minute, microscopic cells, increasing by self-division, and persisting through endless generations unchanged.

It is then conceivable that cells changed by syphilis, tuberculosis or some other form of disease, and multiplying by division should repeat themselves or transmit such changes through several generations. I do not deny that tubercle bacilli are capable of inducing that series of phenomena known as tuberculosis. I maintain, however, that all tubercle bacilli are not capable of constantly producing tuberculosis. This statement may appear somewhat paradoxical. What I mean is this: that the bacterium, which from its form and behavior under certain conditions is known as the tubercle bacillus, is not always capable of producing tuberculosis; for it cannot be denied that as the little fungus in question is a cell which grows mainly by self-division, its cell substance must first have been infected by, or charged with, the tuberculous poison or influence by growth and development in a tubercular nidus, or environment, if I may so express myself, before it can become capable of producing the disease; and even when in that condition, a victim must appear marked by the proper hereditary impress, and an exciting cause come into play. Hence all pathogenic bacteria are sometimes incapable of producing infectious diseases.

If all hereditary diseases, traits and taints originated under special conditions and certain environments have been developed under such conditions and transmitted by natural selection, the tubercle bacillus or the bacillus of cholera may have been rendered infectious by having developed in the lungs of a person afflicted with true consumption or in the intestinal canal of an animal suffering from cholera. Heredity acts upon the bacilli; the poisonous products of the bacilli react upon the organ in which they have obtained lodgement, and disease results. From similar reasoning other bacilli of the same species may never have multiplied in a diseased environment and consequently are not infectious. A certain variety of mosquito has been found guilty of acting as a carrier of the germs of yellow fever. Now there may be millions of that particular mosquito in a given locality favorable to the development of the disease but if there is no fever in that neighborhood it is quite certain that the mosquito will not be able to create an epidemic; nevertheless the mosquito referred to has already received the name of the "yellow fever producing mosquito."

The closeness of the connection between heredity and environment or heredity and bacteriology is seen in the difference between the town- and country-bred boy. In the lad raised in the country the three early layers of the embryo, the epiblast which forms the cerebrospinal system, and the sensitive layer of the skin, serving to place the organism in communication with its environment; the mesoblast or middle layer, which furnishes bones, muscles and blood-vessels; and the hypoblast or internal layer, from which the glandular elements of the digestive system are developed, all grow and develop in even ratio one with another. Such normal growth and development tends to neutralize hereditary taints; while fresh air, outdoor life and pure healthy foods are inimical to germ multiplication. The boy grows strong, muscular, hardy and healthy, while his mental powers, at first slow to expand, exceed in the end the more brilliant town-bred lad, in whom, owing to a more artificial life, excitement and the impure air of cities, the demands of the nervous system upon the mesoblast result in the development of a stunted boy, of weak muscles, weak digestive organs and an overactive brain. The country-bred child reaches manhood with brain and nerves, bones and muscles, and digestive system in an equal degree of development; each one responding to and coöperating with its partner's needs and functions. Debilitating influences and the action of germs lead to scrofula. Excitement of city life, insufficient and impure food, illy-ventilated houses, the presence of factories in which hygienic conditions are not always the best, often impure drinking water, and other evils, the necessary results of city conditions, are a severe strain upon the healthy, but almost sufficient to doom to an early death, the unfortunate to whom a parent or some remote ancestor has bequeathed a legacy of cancer, syphilis, or some other hereditary disease.

To be effective, however, these two forces, or influences, heredity and bacteriology, whatever may be their *modus operandi*, cannot be separated nor supposed to act apart. Their coöperation is essential to cause disease processes. To maintain that all diseases are, or ultimately will be found to be caused by the presence in the system of pathogenic bacteria, is absurd and opposed to the experience of all scientists who have carefully studied the laws of heredity, crossing and variation. The influence of heredity as a predisposing cause of disease has always been recognized, and cannot be disregarded. The enthusiastic baceriologist who has carefully read and reflected upon Darwin's works, especially "The Origin of Species," and "Animals and Plants Under Domestication," or the celebrated work of Professor Lucas, "Natural Heredity," will no longer hold to the opinion that all diseases are caused by microbes.

Bacteria alone cannot cause disease. There must of necessity be due coöperation of both factors, heredity and microbic activity. At first Koch put forth the opinion that bacilli are the real producers of disease; but he has since greatly modified his views, and as he states, to maintain such a view it must be shown: (1) That bacilli are capable of producing disease. (2) That this ability to do so is constant. (3) That pathogenic bacteria produce the same sort of disease in all animals irrespective of species. (4) That they cause infectious diseases of a typic, distinctly marked and sharply defined course. Cohn divided bacteria into three classes, pathogenic, zymogenic and chromagenic. As regards the first condition, it has been proved that the bacillus of consumption can produce a brown pigment upon potato and cause acid fermentation in a solution of sugar. It is therefore pathogenic, zymogenic and chromagenic. It has also been shown that the cholera bacillus can produce yellow or brown pigment upon potato and cause acid fermentation in solutions of sugar; that the so-called golden-pus bacteria form a splendid yellow pigment upon potato or in cultures and in solutions of sugar produce acid. From such facts it is clear that specificity depends upon the nature of the nutrient media, and that bacteria can only draw out or make manifest that which is already performed in the medium structure. Furthermore, we see that they are capable of acting indifferently as pathogenic, zymogenic and chromagenic bacteria.

As regards the second condition. From the date of Pasteur's discovery to the present time modifications of bacteria have been brought about in such a way that they no longer produce poisonous effects on the organism but behave like harmless saprophytes. The results obtained by immunization amply prove the facts.

The third condition requires that special pathogenic bacilli produce the same form of disease in all animals without regard to species. Is such the case? It is not. For instance, some disease germs only affect certain hosts; thus: syphilis, leprosy, cholera and typhoid fever are peculiar to mankind, while tuberculosis, glanders and anthrax attack both man and certain kinds of animals. Negroes are easily affected by smallpox, white men by yellow fever, and so on.

Finally, does a specific disease germ cause only one kind of disease, as postulated by the fourth condition? Again the reply is in the negative. Formation of nodules in the connective tissues may be brought about by the germs of syphilis, leprosy, glanders and tuberculosis.

Suppuration may be caused by the germs of syphilis, erysipelas, tuberculosis, anthrax, typhoid and pneumonia. The common colon bacillus and bacterium of cholera can cause diarrhea, thus showing that one and the same morbid effect can be produced by several distinct species of bacteria. Moreover, one and the same specific germ can cause different morbid phenomena. Thus diphtheria bacilli can cause diphtheria, paralysis, or acute blood poisoning; the bacterium of erysipelas can produce erysipelas in the skin and inflammation or suppuration in the lungs; pneumococci may cause pneumonia, blood-poisoning and inflammation of the brain; tubercle bacilli cause the formation of tubercle in connective tissues, suppuration in the lungs, true consumption, cerebral inflammation, and diseased processes in bones. Such facts show that the effects of bacteria upon living or dead tissue or organisms are modified according to the nature of the environment in which they exercise their peculiar powers.

Since all hereditary taints, traits and peculiarities are prepared for transmission in the uterus or ovaries, so to speak, it seems natural to conclude that the female holds controlling power over the offspring, and from conception to birth is in a position to reproduce her own kind but slightly changed, thus manifesting a tendency to retain and transmit hereditary peculiarities, by which permanence of the species is insured; while the male element, less limited in its activities, has a strong tendency to vary, in this way endangering the preservation of the species. The germ cell is receptive, conservative, has little tendency to variation, and transmits faithfully from one generation to another such diseases or morbid tendencies as have stamped their impress upon the fertilized ovum. The sperm cell, on the contrary, is strongly inclined to variation, is progressive, and by its natural impulse toward change tends to eliminate heredity and annihilate species.

The fact that certain diseases appear to have changed within half a century, that new forms of disease processes are said to have appeared, may be due to those progressive attributes of sperm cells; while the pertinacity with which certain diseases appear to retain their typicly defined course of manifestation, without change or variation, may be due to the conservative nature of germ cells. It may be that after conjugation, the sperm and germ cells pursue each an independent course of development; thus impressing upon the offspring traits and morbid tendencies from both parents. I am not disposed to accept this view of the case, but would rather favor coöperation or a harmonious working together of the two elements, for the production of an organism in which some points from both parents are transmitted, some neutralized or eliminated by the union and some modified, the resulting organism being, as it were, a mean between the two influences; or, as Huxley has so clearly expressed it, "Every animal is the resultant of two tendencies, the one morphologic, the other physiologic," to which let me add, one tendency conservative, serving to preserve immutability of species; the other progressive, inclined to variation, and destructive of constancy in organic forms.

In this paper I have grouped together some facts to show that in all animals and plants there exists a double tendency—one toward variation and consequent elimination of permanent forms and traits, and one toward conservatism or immutability of species; that the latter is known as heredity, the former as variation; that these tendencies apply equally to diseases; that they may be dormant in the system for several generations, to appear in some descendant more or less remote; that certain attributes, special developments, and developments common to both sexes, diseases common to both sexes, and certain functions may be arrested by development of functions peculiar to each sex; that these may reappear in the offspring, or may be reawakened when the functions whose development had arrested their growth have discontinued their activities; that diseases following developments of structure caused by increased functional activity are as readily transmitted as such increased structural developments; that bacteriology is concerned with environment; that bacteria cannot be the sole producers of disease; and finally, that heredity and bacteriology are mutually dependant upon each other and must coöperate if they are to become active in the production of disease.

THE CLIMATOLOGIC TREATMENT OF TUBERCULOSIS.*

BY ETHAN H. SMITH, M. D., SANTA CLARA, CALIFORNIA.

THIS subject is so broad, offers so many chances for digression, and is so little classified that it is difficult to write a systematic paper thereon. The contents of this paper will consist principally of a summary of observations made while journeying through the country mentioned or residing therein. I shall avoid speaking in detail of places I have not seen.

The climatic, topographic and latitudinal or longitudinal conditions necessary to produce an ideal climate have never as yet been realized. No matter what we read or hear of a place, no matter how beautiful it may appear on a chance visit, there is always something more or less to act as a drawback when we learn all about it. An equable climate in a temperate zone, free from oppressive moisture, not an absolute desert, not too hot and never cold, is the phantom which we as climatologists have been seeking during past years. We must stop seeking for the impossible and study how to make the home climate as enduring as possible for such patients as cannot or will not seek another clime. I believe that we have overlooked this side of the matter almost completely. We dose our patient, disinfect and asepticize his indoor surroundings, but pay little attention to the possibility of utilizing our own outdoor atmosphere to combat the disease. It is too near by. We are too familiar with it to hold it above contempt. Plenty of individual means gives opportunity to make any ordinary good climate available to the individual. Plenty of public funds will ameliorate climatic faults for the improvident and the pauper. To stamp out tuberculosis among the two latter classes is to destroy one of the chief breeding grounds. The wealthy man who gives to such an enterprise is making a selfish gift, for he is protecting his own from contamination.

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*Read before the ANN ARBOR MEDICAL CLUB.

In sending people away to try the benefits of climate, it is highly essential that they should have sufficient money to pay for ordinary comforts. Some must have luxuries in addition. Comparatively few individuals have the means to try a change of climate in a way to receive benefit. In time much of this difficulty will be obviated by public aid. Too many times a recommendation to try change of climate is prompted by the undesirability of the case. It is an easy way to rid oneself of an exasperating patient, or family, or to avoid a possible homeopathic or osteopathic complication. The recommendation to change climate is based more on empiricism than on scientific and accurate knowledge.

Localities gain repute as beneficial places for tuberculous patients by chance. While in the beginning they may be beneficial, they ultimately become places of pestilence from overcrowding. I believe it is a good thing to separate a tuberculous patient from an environment saturated with the germs of that disease. While the outdoor conditions of some newly-found place may be unfavorable to the development of the tubercle bacilli, the building of houses and the using of modern methods and means to accommodate guests, soon create a favorable lodgement for the bacilli. Crowd such a habitation with tuberculous patients and they are in a worse situation than in their own homes. So long as there were no houses and the patient lived in a wagon or tent, the climate proved beneficial. Stringent measures should be adopted to prevent more than a given number of individuals from being domiciled at one time in any establishment of known capacity. I believe that in all climates where the temperature will permit, the patient should live in a tent and sleep in a comfortable cot with warm mattress. If the weather is inclement, he still has abundance of fresh air and his progress is not hindered by reason of being indoors.

Before sending a patient away there are certain matters to be considered. Does the physician know anything about the place he proposes to recommend? Is it a high or low altitude? Will the season of the year be suitable at the time the patient arrives there? Will the patient be content and happy, or will he fret and become worse through homesickness? Can the patient have comfortable and safe accommodation when he arrives? Change of climate often makes strong and well people temporarily ill. Has the patient any complicating illness or leision which will not tolerate the new climate? By what route must the patient go? Can he avoid dangerously high altitudes in making the journey. Taken all in all, the climatic problem is complicated and difficult to solve.

Early last summer a society of climatologists made a tour of the

Southwest and the Pacific coast. The management of each sanitarium, representatives of cities and towns, real estate speculators and transportation companies along their route combined to make them have just as good a time as possible. The best of everything was paraded before them. The route through their stomachs was not overlooked. They saw the country at the most favorable time of the year, although they were perhaps informed that the weather, food, and drink were very mediocre. as compared with midwinter. I would not give much for the deductions of that association. They received an exaggerated and extravagant idea of everything. Medical men should travel singly or in pairs at most and unheralded, if they would observe things as they are. They should use their own minds and pay small heed to what they are told until they verify the statements by-careful investigation.

I will consider that part of the country west of the Mississippi river.

Montana and Idaho are too far north and are not much sought after, although there are places which have proved of great benefit to persons electing them at a proper season of the year and recuperating sufficiently to be able to withstand the rigors of winter.

Colorado was a Mecca for a long time. The altitude of most Colorado resorts is too high for many patients. The winters are very severe, thus keeping patients shut in the house much of the time, and pneumonia is prevalent even among the robust inhabitants. At times the outside air is full of frost needles and dangerous for anybody to breathe. In summer a limited proportion of tuberculous patients may thrive there. As it is now many miserable, coughing individuals are frequently shut in a crowded hotel or boarding-house for days at a time, and in an atmosphere laden with the morbid products of tuberculosis. Such climatic imbecility as that results in many deaths.

New Mexico and Arizona are so similar that I can speak of them together. The country is made up of desert plains, broken by low, barren mountain ranges. An occasional patch of cultivated land greets the eye where irrigation is a limited possibility. In summer the heat is so intense, the dust so excessive, sand storms so frequent, that many business men send their families to a more desirable locality. Many persons cannot endure the climate. Malaria is prevalent. The railroads find it difficult to keep a supply of telegraph operators and agents. Mexicans thrive here because it is their native climate. We hear of ranch life in New Mexico and Arizona and associate it with green fields, running water, and growing crops. A cattle ranch comprises many thousands of acres of desert, sparsely covered with sage brush, grease wood, cactus and mesquite bushes. The latter afford the food for the cattle. A steer must range over acres to secure food for one day and must travel miles to obtain water. Life here for many months in the year is a hardship except in the few isolated places where an enormous outlay of capital has made it endurable with only a small degree of comfort. These places are very expensive. The surroundings are uninviting and depressing. In winter they may be beneficial for such individuals as are philosophic enough to be happy under any circumstances. The air is dry, in fact it is too dry. Meats will dry before putrefaction takes place. But the climate is too depressing and enervating except in winter.

We read much concerning the great achievements of the Government hospitals in New Mexico. Grant that what we read is true, is it the work of the climate alone, or is it the climate plus the skill of the doctors and nurses, coupled with the facilities provided by the Government which produces the results? Cannot the same results be achieved in many and more wholesome places? I believe better results can be obtained elsewhere.

Texas is subject to too sudden severe changes of temperature, accompanied by storms, to be beneficial. Four years ago the thermometer recorded a temperature of six degrees below zero and many cattle perished from cold in the southern part of the state. Sanitary conditions are abominable and typhoid fever is prevalent.

Utah, Nevada, and Wyoming offer no great advantages to the tuberculous patient other than may be obtained in any mountainous or desert part of the west. The rainfall is too great in Utah. Nevada seems to be narrowing down to live stock and mines to the exclusion of everything else.

Oregon and Washington have too much rainy and foggy weather.

Lastly, I will consider California. I am frequently asked about the climate of this state. It is decidedly in the plural. One county frequently presents two or three distinct climates. The climate cannot be judged by either latitude or longitude. Mountain ranges, prevailing winds, altitude, and ocean currents conspire to give to California about as many and varied climates as are enjoyed by all the other territory west of the Mississippi. The extreme southernly part of California, except a narrow strip west of the coast range of mountains, is a desert. Here the character of the country is not much different from Arizona. The climate, however, is somewhat influenced by the varying altitudes and the cool breezes at night from the high Sierras.

In the extreme south on the Southern Pacific railroad is Indio. This is rather a unique place, being two hundred sixty-two feet *below* sea level. Several artesian wells furnish irrigation for a few acres of land. A hotel and a few cottages provide shelter for guests. In February the air is delightful. In July it is stifling hot and the sand and dust blow and drift constantly. To give an idea of the effect of the blowing sand, the railroad company has to pile rocks to a height of several feet against the windward side of the telegraph poles to prevent them from being cut off by the constant sand blast. Within a few months' time an exposed pole will be cut nearly to the middle. The trade winds from the Pacific blow from April to October, causing the winds to be commonly from one point. There is no amusement for the patient while at this place. He has nothing to do but loll about and get homesick. While the climate has its advantages in winter, the surroundings are such as to make most patients wish to leave as soon as possible. But a short distance from Indio are the great salt beds of Salton, over three hundred feet *below* sea level.

Needles, on the Santa Fé railroad, is just across the Colorado river from Arizona and quite a distance north of Indio. Needles has cooler nights in summer than most desert places. People begin sleeping in the open air in March. The same objection prevails here that obtains in all the desert country—No place to go! Nothing to do! Gloom, dust and desolation! although there is not quite so much dust here as elsewhere in the desert.

Palm Springs is just on the edge of the Mojave Desert. It is a more inviting place than the two above mentioned. It is not quite so hot and affords a few weeks longer refuge than Indio or Needles.

These three places offer advantages to the philosophic patient with plenty of money, and the knowledge that he can leave whenever he chooses. They are subject to sand storms in summer and frost and atmospheric disturbances at times in winter, which are disagreeable. The bane of all desert places is the overwhelming amount of diet from tinned goods.

Redlands, Colton and neighboring places are on the border of approaching fertility. The summers are hot, but the nights are pleasantly cool for the most part. Irrigation on an extensive scale has produced fruits and flowers and vegetation to please the visitor and make him content.

Los Angeles is nearer the Pacific ocean and has a cooler climate than the above mentioned places.

San Diego, Santa Barbara, Pacific Grove and Santa Cruz are coast towns. There are many intervening resorts on the coast. Many patients thrive here. The sea air has a tonic effect and gives an appetite to many. To those persons having tuberculous throat trouble. the sea air is sometimes irritating. The coast places in summer and the desert in winter make a good combination for many individuals.

Mount Shasta and Lake Tahoe are types of the mountain resorts. There are hundreds of mountain resorts. Many are located in or near the craters of extinct volcanos. Tuscan Springs is a type of these retreats. There are twenty-eight distinctly different springs here. Water ranges from cold to hot. There are saline, sulphur, and iron waters. Many springs are impregnated with antimony or arsenic. California has thousands of mineral springs, which are inaccurately classified and improperly used. That they are destined to become of great therapeutic value, I believe. At present they are a source of mischief in many instances and I mention them in order to advise tuberculous patients to shun them until they are under proper scientific control.

Many patients derive great benefit from buying a camp wagon and spending a year at a time in the various parts of the Pacific coast, going south in winter and north in summer. This kind of life is applicable only to people who are not timid and who enjoy the solitude of the mountains and forests. It may be necessary for a patient to move from place to place to find a suitable climate. Contentment, comfort and abundance of good food are essential. Without one of the three the patient will succumb.

I have known of markedly tuberculous patients going to Alaska, staying a year or two and returning apparently recovered, but their digestion was perfect before they went. Whenever tuberculosis invades the alimentary tract so as to interfere with the digestive function the victim is doomed. I have never seen one recover. Persons with marked laryngeal symptoms are equally unfortunate.

Much good can be accomplished at home by putting patients into tents. I know of the case of a woman in central Ohio who refused to leave home. She consented to live on a farm. Having abundance of money, the husband procured a farm and his wife took up her abode in a tent in a sheltered corner of the yard. After eighteen months she appeared well. I was in a tent this winter on a very stormy day. The mercury stood at five degrees above zero. The structure was a wall tent with single wall and top, 12x14 feet in size. A medium-sized "air tight" heater and a camp cookstove connected to the same pipe kept the room perfectly comfortable with only a moderate fire. Water in a bucket next to an exposed corner and six feet from the stove did not freeze when the thermometer recorded ten degrees below zero outside. In such a tent a patient has abundant pure air day and night. He does not suffer from the cold and if this camp life were begun in summer he could live in the woods in this way all winter.

The possibilities of benefit from tent life are not thoroughly appreciated and should be made clear to those persons who are unable to travel. I believe that the tent is bound to hold a place of greater importance than the sanitarium built on the large plan. When inclement weather compels the patient to stay indoors, he is not deprived of fresh pure air in the tent. He is not so likely to take cold on going out. A tuberculous patient should be out wherever he can keep his clothing dry. He should ride if the ground is very wet or cold and to avoid fatigue. I believe that a trip in a sleeping car is more hazardous to the patient than a change from a house to a tent even in quite cold weather. Change of climate is seldom made without a cold, even by the robust. Colds are dangerous to the tuberculous patient. A tent can be afforded by almost any patient. It is a far safer habitation for an attendant of a patient than a room in a house. A simple camping outfit, warm cots, and a good tent with plenty of wholesome food, make a satisfactory equipment and one not very costly. In lieu of the tent a camp wagon may be fitted up. But even then a tent is an almost necessary adjunct. It is by far better to send a patient with such an outfit to a distant climate than to depend on chance for suitable accommodations. The place selected should be one affording as much as possible in the way of pleasant surroundings. Contentment and cheerfulness are essential to improvement in any case.

In regard to diet I will make but one statement. I make that because on it hinges a therapeutic question. I believe that plenty of good bacon is better than all the cod-liver oil on earth. Most cod-liver oil is nothing but nondescript fish oil. The question of which is the more palatable needs no comment.

The patient undergoing climatic treatment should be under the surveillance of a physician to whom should be intrusted any symptomatic treatment.

ORIGINAL ABSTRACTS

GYNECOLOGY.

By REUBEN PETERSON, A. B., M. D., Ann Arbor, Michigan.
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THE NATURE OF HYDROSALPINX.

Clement White (*Journal of Obstetrics and Gynecology of the British Empire,* March, 1903) has drawn certain interesting conclusions as to the nature of hydrosalpinx from a clinical study of twenty cases of this disease. He defines hydrosalpinx as a fallopian tube with its abdominal ostium impervious, distended by nonpurulent, nonhemorrhagic fluid. He believes there is an analogy between hydronephrosis and hydrosalpinx, since both may be caused by partial occlusion of the ureter and tube. This was illustrated strikingly in one of his cases where the hydrosalpinx was produced by the blocking of the lumen of the tube by yellowish-white calcareous bodies. Usually the temporary occlusion of the tube is caused by periodic closure of the lumen by congestion of the mucous membrane in connection with the menstrual cycle. This is associated usually with faulty development. Pyosalpinx and hydrosalpinx are in different categories as far as their origin is concerned. The latter can become infected and become converted into a pyosalpinx, but White could find no evidence as to the occurrence of the opposite sequence. Blood may enter a hydrosalpinx and convert it into a hematosalpinx and this may become infected. Inflammations may occur around the hydrosalpinx, but do not produce the condition any more than adhesions produce an ovarian cyst.

From a study of six cases of hydrosalpinx, received at the London Hospital, White concludes that "the frequent absence of history of previous inflammations, though carefully inquired for, coupled with the fact of sterility, lead to the suggestion that the condition of hydrosalpinx is due to a developmental error, and is not in any true sense due to an inflammatory change." The clinical history of a large proportion of cases is not that of a salpingitis, and is often marked by the absence of symptoms. The symptoms which are present are such as are found in cases of maldevelopment, namely, sterility, pain, scanty menses, dysmenorrhea, and dyspareunia.

OBSTETRICS.

BY THOMAS STONE BURR, A. B., M. D., ANN ARBOR, MICHIGAN.
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TYPHOID FEVER AND PREGNANCY.

BOYD and Routh (*Journal of Obstetrics and Gynecology of the British Empire*, April, 1903) report an interesting case of pregnancy complicated by typhoid fever in a multipara aged twenty-eight years. Her previous personal history was negative. At the eighth month, the patient suffered from the usual prodromata of typhoid, namely, headache, dizziness, vomiting, and general malaise, whose increasing severity compelled her to take to her bed three weeks later. The day before delivery her temperature was 102.6° and her pulse 120, of low tension but not dicrotic. The characterictic rose-colored spots developed on the abdomen and back, the spleen was palpable, and the dorsum of the tongue was covered with a thick moist coat, but the edges and tip were clean.

The labor was normal and a live child was born without any signs of typhoid. The temperature of the mother rose during the first twenty-four hours after confinement to 104.8°, but a cold sponge bath every four hours reduced it. The temperature fell by lysis a week later and the patient made an uninterrupted convalescence.

The blood of the mother gave a positive Widal reaction but a negative reaction was obtained from the child's blood. At no time did the child show any signs of typhoid fever.

The authors deduce the following conclusions:

(1) Pregnancy does not influence unfavorably the course of typhoid fever.

(2) Typhoid fever in the ninth month of pregnancy is a rare occurrence, as the two conditions usually cöexist in the earlier months of gestation.

(3) The epithelium of the chorionic villi can act as a safe barrier against the passage of pathogenic organisms from mother to fetus.

(4.) Premature delivery during typhoid does not lead to a sudden lowering of temperature and rapid convalescence.

WILLIAM H. MORLEY.

PEDIATRICS.

BY ARTHUR DAVID HOLMES, M. D., C. M., DETROIT, MICHIGAN.
PROFESSOR OF PEDIATRICS IN THE MICHIGAN COLLEGE OF MEDICINE AND SURGERY.

INDICATIONS FOR REMOVING THE TONSILS.

GOLDSMITH (*Canada Lancet*, February, 1903) gives the indications observed by him for the removal of tonsils. (1) Deafness associated by overgrowths; (2) enlarged tonsils in debilitated children and adults; (3) frequent attacks of tonsillar or peritonsillar inflammation; (4) presence of caseous material in the tonsils causing impaired nutrition, foul breath, and continuous chronic pharyngitis; (5) enlargement sufficient to impair speech, respiration or deglutition; (6) small submerged tonsils, the structure of which is often one suppurating mass, with which subtonsillar disease is associated.

The author does not favor the use of the guillotine on any patient over seventeen years of age, or in submerged tonsils. It is wiser to remove the whole tonsil, an operation more easily accomplished by the use of the cold snare, it being both safe and thorough, providing it be not too fine. As there is danger of homorrhage, crushing the tonsil is preferable to cutting it. The Dundas-Grant tonsil punch is particularly useful in removing the small hard tonsils of adults and the long flat tonsils when it is difficult to get sufficient of their substance into the guillotine. In order to avoid hemorrhage care should be taken with the dressings. All exertions should be avoided. Any tendency to clear the throat should be guarded against and the eschar which forms should be allowed to come away itself.

The writer holds that operations should be refused in cases of hemophilia.

OPHTHALMOLOGY.

By WALTER ROBERT PARKER, B. S., M. D., Detroit, Michigan.
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THE USE OF THE *X*-RAYS IN OPHTHALMIC SURGERY.

Mayou, M. S., London (*The Lancet*, February, 1903), after reviewing the uses of the *x*-rays in localization of foreign bodies in the globe and rodent ulcers, gives the following report:

"In the *x*-rays we have a method of setting up a leucocytosis with the absolute minimum of destruction to epithelial and other tissues; and further we have a means of producing inflammation from a very slight leucocytosis to an actual gangrene of the part which with due care and experience we have under almost perfect control. Not knowing the organism which causes trachoma we cannot say whether the irritants which are used in its treatment, or the *x*-rays, have any effect on it. But we have in the *x*-rays a method of producing leucocytosis in any degree of severity from that following a mild application of perchlorid of mercury up to that induced by jequirity; and, further, this leucocytosis is much more prolonged than that in any method previously adopted and the destruction is not nearly so great. Although granules disappear very rapidly under the *x*-rays, operative methods, which have the additional advantage of removing the diseased tissue, must be preferable to some extent except that the patient has to undergo an operation, but such operations can be followed by the *x*-rays to complete the work in preference to one of the other irritants now in use. Operation, however, should never follow *x*-ray treatment without considerable interval.

"At the beginning of 1902 I showed before the Ophthalmologic

Society a case of trachoma which had been treated by the *x*-rays and which, so far as I know, was the first of its kind. The method adopted was to recover the whole face, with the exception of the effected eye, with a metal mask. (Since then I have discarded the mask altogether and now I never expose the patient sufficiently to get any reaction at all in the skin.) The upper lid was then everted and the lower lid was pushed up so as to cover as much of the cornea as possible, but in bad cases of pannus the cornea is exposed. I never have had any trouble with the globe following *x*-ray treatment, and in a case of rodent ulcer of the lid in which the treatment was used for six months and which I showed at the same society last June there were no signs of retinal, corneal, or other affection, with the exception of conjunctivitis, and the patient's vision remained the same (6/9) throughout the treatment. The patient is seated about nine inches from the anode with a moderately soft tube and a current of six amperes. Two minutes' exposure is given for from four to six successive days, depending on the case. If there be much injection or the case be an acute one, four are generally sufficient. A week's rest is then given and if no reaction is set up the patient is exposed twice a week until there is a slight increase in the photophobia, which shows that he is beginning to react. About this time the granules begin to disappear from the lids. Exposures once, twice or three times a week are carried out until they disappear entirely. When once the granules have disappeared all treatment must be stopped, as it requires some weeks for the infiltration set up by the *x*-rays to settle down and it is difficult to tell whether the disease is absolutely eradicated, as the lids remain injected for some time after treatment has ceased. The final result to the lid is most satisfactory. Instead of the white, puckered conjunctiva gained by other methods a supple, noncontracted, nonscarred conjunctiva, with no obliteration of the fornices, unless they are already gone before treatment, is produced, similar to the soft, supple scar in the skin following this form of treatment in rodent ulcer, as compared with the dense cicatrix of excision.

"As regards the effect on pannus, it often clears with great rapidity, especially if recent, and it is the common thing for patients to say that they see more clearly from almost the first exposure. But even the dense corneal opacity will often clear considerably and in one case of extensive destruction and cicatrization of the cornea, in which at the commencement of treatment the patient could only see shadows, in two months she could count fingers three feet away. Another peculiar point is the amount of exposure required by different patients. Sometimes the granules begin to disappear from almost the first exposure; others require from eight to ten exposures before showing signs of reaction.

"With regard to cases suitable for treatment, the most satisfactory are the chronic cases, and of course the earlier they seek treatment the more rapid and satisfactory is the result. These patients will stand more frequent exposure than others; acute diffuse infiltrations with thickening of the lids and much photophobia require more careful exposures and extending over a much longer period. Old standing cases in which the lid trouble has almost disappeared, but in which there is much opacity of the cornea, will often improve under exposure of long intervals after the first reaction, which should be mild. The chief advantages of this treatment are: (1) There is considerably less deformity in the lid after treatment; (2) it is practicly painless treatment; and, (3) pannus clears more thoroughly. It is eminently suitable for hospital patients who cannot attend daily for other methods of treatment to be carried out. In the first cases the patients were troubled with some falling out of lashes and conjunctivitis. In no other case out of some fifteen has there been similar trouble."

LARYNGOLOGY.

By WILLIS SIDNEY ANDERSON, M. D., DETROIT, MICHIGAN.
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CHRONIC SPHENOID ABSCESS.

LEWIS S. SOMERS (*American Medicine*, February 28, 1903) gives briefly the anatomy of the sinus and its relation to the important structures adjoining it. He outlines the principal symptoms of empyema of the sinus, such as pus in the nasal passages, pain, ophthalmic symptoms, meningitis, thrombosis and suppuration of the cavernous sinus. The detailed history of a case is given, which illustrates the symptoms outlined. He calls attention to the three methods of entering the sinus, (a) the natural intranasal route; (b) through the frontal sinus; (c) by way of the maxillary sinus. The intranasal route is the one described. Irrigation with weak antiseptic or normal saline is advised, and the interior of the sinus is treated as indicated, either with a weak trichloracetic acid or zinc chlorid solution. If the mucosa of the upper and external wall is diseased it is treated with the solutions mentioned, while the other portions of the sinus are curetted gently as no risk with careful handling is involved here. The curetting of the anterior wall and floor often produces beneficial results without further treatment. Necrosed bone is removed so far as safety will permit, and as the necrosed area is usually on the anterior wall it can be removed with perfect safety. The sinus is then irrigated and may be packed with iodoform gauze, although the author prefers drainage without gauze.

THE ANATOMY OF THE SPHENOIDAL SINUS AND THE METHOD OF APPROACHING IT FROM THE ANTRUM.

HARRIS P. MOSHER (*Laryngoscope*, March, 1903), in an exhaustive article with a formidable bibliography, gives in detail the anatomy, development and relations of the sinus, and discusses methods of entering the sinus. The nature of the article is such that it cannot be easily abstracted.

TRANSILLUMINATION OF THE NASAL ACCESSORY SINUSES DURING ACUTE CORYZA.

Carolus M. Cobb (*Journal of the American Medical Association*, February 28, 1903) states as a summary:

(1) That to do satisfactory work it is necessary to have lamps of much greater candle power than those usually sold by instrument dealers.

(2) That it is rare to find the accessory sinuses dark on transillumination during the early stages of acute coryza.

(3) That during the later stages of a prolonged attack it is the usual result to find one or more of them dark.

(4) That hemicrania is often closely associated with antrum disease.

(5) That it is almost the rule to find one or more of the nasal accessory sinuses involved when the ears are affected during acute coryza.

EMPYEMA OF THE ACCESSORY SINUSES OF THE NOSE.

J. H. Woodward, New York (*Medical News*, February 21, 1903), gives first the anatomy and relations of the various sinuses of the nose. Inflammation of the accessory sinuses may be either primary of secondary, acute or chronic. The most universal subjective symptom observed in pyogenic inflammation in these regions is pain. In maxillary sinusitis the pain is usually located beneath the orbit; in ethmoid disease it is in the frontal region and behind the eyeball; in sphenoidal sinusitis it is deeply seated behind the eyeball, or in the vertex, or in the occiput. There are variations from these rules. Tenderness on pressure over the affected sinus is usually present. The objective symptoms are those of a more or less intense rhinitis and a purulent discharge from the nose, which varies much in amount. Edema of the cheek and about the eye and forehead, and inflammatory swellings in those regions are observed in certain cases of antral and frontal sinus suppurations. Conjunctivitis, photophobia, exophthalmos, phlegmon of the orbit, optic neuritis, meningitis and cerebral abscess have all been observed as complications of sinus disease. The natural course of acute inflammation of the accessory sinuses is toward complete and permanent recovery. Chronic sinusitis, on the other hand, runs a protracted course without manifesting any tendency toward spontaneous cure.

The treatment outlined consists in combating the disease upon which they depend. Relieve congestion and obstruction in the nose in order to restore the patulency to the natural openings of the sinuses. In more chronic cases such operative measures should be taken as are necessary to give drainage and the cavity treated on general surgical principles.

[The above abstracts of a few of the many articles published during the past season show the increase of our knowledge of sinus affections. The diagnosis of some of the obscure cases is very difficult, and requires a most careful examination and exclusion of other diseases. Many cases are not recognized during life. The death, supposed to be due to brain disease, is shown by the autopsy to be primarily of sinus origin. Many of these cases fall into the hands of the family physician, so it is important that the general practician have in mind the possibility of sinus disease and remember a few of the symptoms diagnostic of the affection. The following is a summary of a few important diagnostic symptoms of sinus disease: Pain is very important. It may be most noticeable in the frontal or orbital regions, or in cases of sphenoidal disease of a deep boring nature as if situated in the center of the head. Tenderness may be present at the root of the nose, or the inner canthus. A purulent discharge, constant or intermittent, is very characteristic. Nasal obstruction on the affected side is usually present. Irregular fever, insomnia and nervous symptoms develop in severe cases. W. S. A.]

PSYCHIATRY.

By WILLIAM MILAN EDWARDS, M. D., Kalamazoo, Michigan.
MEDICAL SUPERINTENDENT OF THE MICHIGAN ASYLUM FOR THE INSANE.

INSANITY IN IMBECILES.

Doctor A. F. Tredgold (*Journal of Mental Science,* January, 1903) writes fully on the subject of insanity in imbeciles and gives abstracts of illustrative cases. He says insanity is rarely met with in the more pronounced grades of amentia but is comparatively frequent in the higher grade imbeciles. But scant attention has been given to this subject in the literature. He gives some description of the general characteristics of the high grade imbecile but does not enter into a full discussion of these cases. He says that one of the commonest statements is that they have not learned at school, particularly he finds that arithmetic is a great stumbling block and they have not passed the third, second or often the first grade. Such persons learn to walk and talk late and dentition and development are retarded. He states that the cases of insanity in imbeciles that he has seen have been in those of high or medium grade, but it by no means follows that all high-grade imbeciles are liable to be so afflicted. Those who become insane have nearly always for some years before the actual outbreak been prone to strong fits of irritability, moroseness, sulkiness or acts of violence or have wandered away from home and caused much trouble by restless disposition.

The author divides the high grade imbeciles into two groups, the mentally stable and the mentally unstable; insanity occurring among the latter class, and he considers this instability the most important factor in its production, exciting causes playing a minor part. In a mentally unstable imbecile the chances of his passing through the third decade without becoming insane are very small indeed. Institutional life of the right kind, begun sufficiently early, would probably do much to prevent insanity in such persons. In the mentally unstable imbeciles that came under his observation he was able to say that in ninety per cent there were morbid hereditary influences present.

Pathologic research has shown that in the idiot there is a paucity of imperfectly developed and irregularly arranged nerve cells and processes, but in the imbecile the cells more nearly approach the normal in both number and degree of development, the principal change being an irregularity of arrangement. He thinks there is no doubt that the degrees of pathologic change cause the variations of mental capacity which exist in the different types, and while the idiot is capable of little beyond reflex action the higher grade imbeciles are possessed of good perception, of memory, of emotion and of ideation. They are, however, deficient in the power of concentration, of continued application and of comparison. Their appreciation of their surroundings is therefore inaccurate and their higher faculties of deliberaton, judgment and control reman undeveloped. This absence of the higher faculties and the consequent absence of the inhibitory action over ideation and emotion seriously endangers the individual's sanity. In uncontrolled ideation the primary idea rapidly assumes such dimensions as to entirely alter the individual's mental attitude toward his surroundings, hence delusions result and may be of identity or persecution, fixed or rapidly changing, and their existence soon brings about a condition of mania or melancholia. Hallucinations often figure largely in the ideational type of insanity.

Uncontrolled emotional actions characterize another class. Emotional storms of a transient nature may be present before the actual outbreak of the insanity, and though of short duration are closely allied to true insanity. In the course of time these outbreaks become more severe and prolonged until finally they last for weeks and present all the features of acute mania or melancholia.

All the cases of insanity in imbeciles which Doctor Tredgold has seen conform at first to one or the other of these types, and therefore appear to be the direct consequences of imperfect development of the higher mental faculties with its associated instability. It is said that the first attack in these persons usually appears between the ages of puberty and adolescence, and some of the cases may be mistaken for adolescent insanity and so classified. This is important from the prognostic point of view. The type of insanity is chiefly mania or melancholia, mania, the most common, occurring in fifty-five per cent of all cases, and melancholia in from forty to forty-five per cent. General paralysis occurs probably to the extent of two or three per cent. Delusions can be ascertained in about two-thirds of the cases. He eliminated all cases in which epilepsy was present from those from which he deduces his conclusions. The ideational variety of insanity was found in the greater number of cases. Melancholia existed in nearly half the cases, a larger proportion than in the nonimbecile class of insane. the probable explanation being that the temperament of these patients is more apt to be gloomy owing to general poor health. Suicidal attempts occur in two-thirds of these melancholy patients and form real and definite efforts to put an end to existence. Improvement is noticed early and the acute condition may only last a week or a month and rarely continues longer than two or three months. There is, however, scarcely any class of patients in whom recurrence of insanity is so likely to take place as in these imbeciles, and the greater number discharged from asylums will be back within a few months or a year at the most. As a rule the second and subsequent attacks are of the same clinic type as the first but in fifteen per cent the subsequent attack is different from the primary but the tendency in the end is to become more and more apathetic until dementia is established. Many of the patients seem to improve under firm and judicious treatment and the diminished severity and frequency of the outbreaks would appear to indicate that their power of control is in some degree capable of development but probably not to a sufficient extent to enable them to be freed from supervision. Their future depends largely upon the patience and intelligence of their attendants.

THERAPEUTICS.

By DELOS LEONARD PARKER, Ph. B., M. D., Detroit, Michigan.
LECTURER ON MATERIA MEDICA IN THE DETROIT COLLEGE OF MEDICINE.

THE THERAPEUTICS OF OXYGENATED WATER.

Doctor Lucas-Championniere (*Journal de Médecine et de Chirurgie Pratiques,* April 10, 1903) writes of the great utility of oxygenated water for antiseptic purposes. The use to which he recommends it is a local one.

An important property of this substance is that in concentrated solutions (ten and twelve volumes) it is not irritating.

The action of oxygenated water depends on the presence of albuminoid matter. This is because such matter decomposes it and sets free oxygen, which is the substance that produces the antisepsis.

A peculiar advantage is gained by this kind of action. Pus and blood are albuminoid substances and the greater the degree in which they are present the greater the antiseptic action—a condition the reverse of that which obtains in the case of other antiseptics such as corrosive sublimate.

Experience has shown that this antiseptic is quite as efficient in destroying aerobic as anaerobic microbes.

In applying the remedy locally any strength up to ten or twelve volumes can be used. This should be applied freely and kept in contact with the affected surface for some time.

In addition to the action of the liquid itself Doctor Lucas-Championiere has found that when oxygenated water is boiled and the vapor inhaled a decided antiseptic effect is produced in the air passages. The effect here is increased by the addition of five per cent of alcohol to the water. The employment of this remedy has been found particularly valuable in laryngeal tuberculosis.

EDITORIAL COMMENT.

THE STATE MEDICAL SOCIETY MEETING.

THE thirty-eighth annual meeting of the Michigan State Medical Society at Detroit, June 11 and 12, 1903, was a splendid demonstration of the results of hard work. Heretofore the annual meetings have been generally well enough managed and profitable to those in attendance, but nothing like a representative gathering of the profession of the whole state has been secured. And even though the six hundred in attendance at the Detroit session were only a small moiety of those who might have been expected, yet this number was so far in advance of past records that this feature alone created interest and enthusiasm. All declared without reservation that the last meeting was the best in the history of the society.

A large part of the added interest in the meeting may be attached to the reorganization of the profession—the new constitution adopted at the Port Huron meeting and the new relations of the county organizations to the state society. Much hard work has been done by the officers of these organizations and by others of strong altruistic spirit in furthering their spread. It is this energy put forth through the organizations, not the reorganization itself, that has accomplished such results. From this point of view can be easily discerned the necessity of energetic officers.

The committee of arrangements made excellent preparation for the visiting members. No better arranged and more commodious places of meeting were ever at the society's disposal. The section meetings, registration office, reception and exhibit hall, being all located in the one building, centered the spirit and activities of the whole session. The special committee on exhibits was unusually gracious in its results. At no meeting of the State society have we seen so much satisfaction on the part of both members and exhibitors as on this occasion. The reception and vaudeville on the evening of the first day was a pleasurably informal and amusing event, contributing not a little to the success of the meeting.

The section meetings were on the whole very profitable. There were many excellent papers and addresses, but incidents that occurred here and there may be used to enhance the effect of future meetings. Long addresses make an impatient audience anywhere. The attempt to catechise a crowd of voluntary listeners will not contribute to the general interest even though it prolong the session. The introduction of an industrial undertaking into the scientific part of our meetings has never yet worked to advantage and never will. These were not serious matters but sufficient to be noticeable.

This meeting demonstrated beyond question the need of an ophthalmologic and otologic section. The papers presented in this special department were worthy of larger attendance, but through some unfortunate arrangement were badly mixed between the surgical and medical sections, and were of absolutely no more interest to many not engaged in that specialty than the technical use of obstetric forceps proved to be to the members of the ophthalmologic club. It is a condition and not a theory that the institution of a fourth section would improve.

The manner of election of section officers is of the greatest importance to the society. In the past elections have for the most part gone by default. They are held at the opening of the session on the afternoon of the second day. A committee on nominations has previously been appointed, which cuts and dries the result, and a handful only of the section members who get around at the specified time, sanctify the choice. Clearly these elections should be held in such a manner and at such a time as to secure the attention of the entire society, for the life of the sections is after all the mainspring of the whole organization. Abolish the committee on nominations, nominate by ballot on the first day, when the enthusiasm is at its height and before half of the visitors have gone home or are otherwise engaged.

CONTEMPORARY.

ACID INTOXICATION IN DIABETES.

[BOSTON MEDICAL AND SURGICAL JOURNAL.]

THE discovery that diabetic coma was due to an acid intoxication of the body was a notable advance in our knowledge of diabetes. It furnished a starting point for further investigation. This was first directed to the determination of the specific acid, and almost sooner than could be expected the problem was solved by Minkowski and Külz, who isolated B-oxybutyric acid from the urine of patients dying in diabetic coma. A little later this question was more thoroughly studied by Magnus Levy. He showed that the body of such a patient contained as much B-oxybutyric acid and its derivatives per kilo body weight as Walther had found necessary to produce acid intoxication in a dog.

The symptomatic treatment of diabetic coma in consequence received a great impetus. To be sure but few cases have recovered from actual coma by the use of alkalies, but unquestionably the prophylactic use of bicarbonate of soda has prolonged life for months. Progress, however, is still being made in this condition, and, as is usually the case, along strictly scientific lines.

The source of the B-oxybutyric acid and its derivatives was the next question to be attacked. These bodies may be syntheticly produced in the system or derived in some way from the food. The latter is the far more reasonable hypothesis. Of the three classes of food stuffs, carbohydrates were the first to be excluded as a possible source. This was easy of demonstration, for it was found that the acid intoxication produced by an exclusive meat and fat diet disappeared at once when carbohydrates were eaten. Not so easily has the matter been settled with proteids. But the case is fairly represented by the statement that von Noorden in his third edition has changed his former opinion and accepted Magnus Levy's view that proteids are not the source.

Having ruled out the carbohydrates and proteids, the fats remain by exclusion the source of the acid intoxication. And there is much in favor of this explanation, but into this we cannot now enter. If this is accepted, the next question which arises is as to the nature of the fat. Is it one particular kind of fat, or is the variety indifferent? It is with this special subject that some suggestive work has recently been done. Hagenburg has reported that a diminution in the excretion of acetone followed the exclusive use of fat when taken in the form of bacon; Schwarz, on the other hand, noted an increase of acetone with a diet containing much butter. Grube has repeated their work qualitatively, and confirms their results. It is too early yet to draw far-reaching inferences from these data, but it seems probable that the higher fats, palmitin and stearin, have less to do with the production of diabetic coma than the lower fats, olein and butyric acid, which are present to such great extent in butter. If the coma of diabetes could be traced to one special variety of fat, a new and simpler problem for study would be gained. In the meantime, it may be well to urge our advanced cases of diabetes to eat less butter, but more fat of meat.

THE WALCHER POSITION IN LABOR.

[COLUMBUS MEDICAL JOURNAL.]

NOT infrequently the obstetrician overlooks the various positions which would greatly facilitate labor were they employed at the proper time. On account of the laxity of all pelvic joints during the latter months of pregnancy there is possible a nutatory motion of the sacrum. In case of slightly contracted pelves, as for instance, 8.5 cm. to 10 cm., the addition of one cm. to the conjugata vera diameter which the Walcher position gives may allow a head to pass through the brim of the pelvis, which otherwise would not or at least would not engage unless prolonged time were given for moulding.

Again, what might be termed the opposite of the Walcher position is useful at the time of delivery of the head. With the mother in left lateral position, flex the thighs, bend and separate the knees and you will thereby increase the anteroposterior diameter of the outlet. Many authors advocate the lithotomy position during the delivery of the head, but the lateral position requires one less assistant and also allows the obstetrician to protect and care for the perineum to a much better advantage. A good description of the Walcher position is given in the "Practice of Obstetrics," by American authors, as follows:

"Walcher, in 1889, called attention to the importance of utilizing the mobility of the sacroiliac joints in different labor. The sacral promontory lies in a plane above the axis of rotation and in front of it. The promontory, therefore, moves forward and backward, according to the changing inclination of the pelvis in different postures of the body, and the tip of the sacrum, of course, moves in a reverse direction. When the woman lies in the lithotomy position, the thighs being strongly flexed on the abdomen, the conjugate diameter of the pelvis is shortened; when placed in the dorsal position with the hips close to the edge of the table and the lower extremities hanging, that diameter is lengthened. The latter posture is known as Walcher's position." The gain in the conjugate in changing from the lithotomy to the Walcher position is variously estimated at from 5 mm. to 13 mm. In a series of observations made by the writer the increment was, in the cadaver of the nonpuerperal subject, 3 mm., and in the living woman, within two weeks after labor, from 5 mm. to 7 mm. This gain may be used to advantage in moderate disproportion between the head and pelvis. In difficult extraction the patient should be placed with the thighs in full extension till the largest circumference of the head has passed the brim.

It may be noticed that the stain of healthy lochia upon the napkin differs considerably from the stain of putrid lochia. The former will show the stain of a drop, whose center is red and the edges almost colorless, and poorly defined, while the latter shows a pale center and well defined red edges.

MEDICAL NEWS.

THE MADRID MEETING.

THE International Medical Congress convened its fourteenth meeting at Madrid, Spain, Thursday, April 23, 1903, under the presidency of M. le Professor Julian Calleja y Sanchez, and held daily sessions to the 30th inclusive. The inaugural exercises, which were conducted in the Opera House, were honored by the presence of King Alfonzo XIII and the mother queen. The presidential address dealt with the medical progress of the century, the cell doctrine and the relation sustained thereto by epigenesis, receiving its share of attention. The orator declared, however, that the greatest achievement had been scored in bacteriology. Congratulatory speeches by Brouardel, Leyden, Pavy, and Schroetter also contributed to the interest of the preliminary session. The most important papers of the scientific proceedings were embraced in the departments of medicine, gynecology, obstetrics, and pathology. The social features of the occasion included a grand ball on the evening of the first day in the City Hall, at which five hundred delegates were present; a full-dress reception in the palace on Friday evening by the king and queen; an excursion to the Escurial monastery, situated in the vicinity of Madrid, on Saturday; a special bull fight on Sunday; an excursion to Toledo on Monday; and a party in the Royal Gardens on Wednesday evening. The Secretary announced that seven thousand had attended the congress, one-half of whom were foreigners. The United States ranked seventh in the list of countries represented, two hundred Americans gracing the gathering. The next meeting will be held at Lisbon, Portugal, in 1906. Professor Alfredo da Costa, of that city, is president.

MINOR INTELLIGENCE.

THE last word in the article entitled "The Parasite of Smallpox," which appeared in our April issue, was misprinted "cancer." It should have been "smallpox."

THE London Hospital Quinquennial Appeal Fund has received a gift of £1,000 from the Queen of England.

ONE hundred seventy-two persons have been treated for rabies at the Pasteur Institute, New York City, since January 1, 1903.

DOCTOR THEODORE J. BLUTHARDT, of Chicago, has recently been appointed to the United States Consulship at Barmen, Germany.

THE last United States census shows a decrease in the death rate from tuberculosis, during the years 1890-1900, of about one-tenth per cent.

THE legislature of Pennsylvania has appropriated fifty thousand dollars to the State Board of Health for the purpose of suppressing smallpox.

THE legislature of New York has appropriated one hundred fifteen thousand dollars to the State Hospital for Tuberculosis in the Adirondack mountains.

ANNOUNCEMENT is made that an epidemic of typhoid fever has appeared at Leland Stanford University. Over one hundred cases have already been reported.

MILAN has a female professor of anatomy in the person of Doctor Rena Mastio, who was recently appointed a member of the faculty in one of the schools of that city.

REPORT says that Miss K. Chamberlain, a niece of Joseph Chamberlain, British Colonial Secretary, has received the appointment of resident physician to the Royal Free Hospital of London.

MR. HOMER FOLKS, Commissioner of Charities of New York City, has advised that one hundred thousand dollars be appropriated for the organization of a cottage colony, on Staten Island, for aged and infirm poor.

THE author of the best paper on surgical pathology or surgical practice will receive the Samuel D. Gross prize of twelve hundred dollars. The award will be presented on January 1, 1904. Competitors must be American citizens.

THE Manhattan Eye, Ear and Throat Hospital lately received fifty thousand dollars from Mrs. A. A. Thomas and her two children for the purpose of establishing the Samuel Thomas Memorial Ward, which will be furnished with ten beds.

DOCTOR HOWARD A. KELLY, of Baltimore, recently commenced suit against the Western Union Telegraph Company to recover two thousand dollars damages for failure to deliver two telegrams last October, whereby he was prevented from performing an important operation.

AN ordinance preventing the sale of opium or cocain, except in physicians' prescriptions, has been passed by the council of Wilmington, Delaware.

KING EDWARD'S Hospital Fund has been augmented by a gift of twenty-five thousand dollars, bequeathed in the will of the late Mr. Mellin, the originator of Mellin's Food.

THE study of malaria in the Congo region will be facilitated, through the Liverpool School of Tropical Medicine, by a subscription of two thousand five hundred dollars from the king of Belgium.

ONE of the senators recently sent to Washington from Delaware, Doctor Louis Heisler Ball, is said to be the second physician engaged in active practice who has been honored by election to the United States Senate.

FINLAND enjoys the distinction of being comparatively free from quacks. Statistics show that in that country there are four hundred fourteen legally qualified physicians, while the number of unqualified practicians is only fourteen.

CINCINNATI physicians recently petitioned the Ohio State Board of Health to debar osteopaths from vaccinating school children. The position was taken that surgery, even in minor degree, should not be practiced by adherents to this cult. The petition was sustained.

THE legislature of Pennsylvania has appropriated one hundred seventy-five thousand dollars for improvements and apparatus at the hospital of the University of Pennsylvania. The acquisitions will embrace an x-ray equipment and the erection of a sterilization building.

THE one hundred thirtieth anniversary of the Medical Society of London was recently celebrated by a dinner which was attended by nearly two hundred persons. Among the postprandial speakers were the Honorable R. P. Porter of the United States army, and the Lord Chancellor.

A RESOLUTION was recently adopted by the common council of Columbus, Ohio, requiring street cars to be fumigated every twenty-four hours. A serious mistake was made, however, in allowing the railway companies to employ whatever method of fumigation they may choose.

GENERAL DAVIS, Commander of the Division of the Philippines, has arranged for the construction of a modern hospital, to be located three thousand feet above sea level, near Mariveles. The hospital is intended for the benefit of officers and men suffering from the effects of the Philippine climate.

STATISTICS, issued by the Imperial Health Board of Berlin, place the death rate in European countries as follows: Russia four thousand per one million inhabitants; Austria and France three thousand per one million; Sweden, Germany and Switzerland, two thousand per one million; Netherlands, Italy, Belgium, Norway and England; one thousand per one million.

A LAW which was recently passed by the legislature of Virginia requires an applicant for a liquor license to possess a petition bearing the signatures of a majority of the voters in his district.

CHARLES S. BAYLIS, of Brooklyn, who died recently, bequeathed ten thousand dollars to the Long Island College Hospital and two thousand dollars to the Brooklyn Eye and Ear Hospital.

DOCTOR L. GIDEON ARCHAMBAULT, one of Rhode Island's oldest physicians, who died recently at Providence, bequeathed forty thousand dollars for the establishment of a hospital for the aged poor in that city.

OSTEOPATHY has suffered defeat in Pennsylvania. A bill, which was introduced into the legislature early in the winter to recognize this schismatic cult, was defeated, owing, it is said, to the efficient work of twenty-four physicians and two druggists who are members of the lower house.

THE bill forbidding pollution of public waters, which was lately passed by the legislature of New York, has been signed by the Governor. Superintendents of factories and commercial establishments must henceforth secure a permit from the State Department before emptying waste material into the rivers.

DOCTOR ALMA A. WILLISTON, of Phillipsburg, Warren county, New York, has been appointed municipal physician of that place by the town council. She will receive a yearly salary of two hundred dollars, and in addition will be provided with an automobile and an allowance of one hundred dollars per year for medicines.

THIRTEEN persons recently contracted charbon in Louisiana, through the death of two hundred twenty-five head of cattle from the disease. The farmers, not realizing the infectious nature of charbon, skinned some of the animals and disposed of the hides, which were the cause of the infection. Steps have been taken to suppress the disease.

MR. JAMES STILLMAN, who contributed one hundred fifty thousand dollars for the erection of an infirmary at Cambridge to accommodate students of Harvard University, recently augmented this gift by an additional fifty thousand dollars for the establishment of a contagious disease ward in connection with the infirmary.

AT a meeting of the Congress of American Physicians and Surgeons, which was held recently in Washington, a movement was inaugurated to erect a monument to the memory of the late Major Walter Reed, of the United States Army. A commitee was appointed and it is the intention of the society to raise about twenty thousand dollars for the memorial.

THE medical corps of the United States Navy is to be increased by the addition of one hundred fifty new members. Twenty-five physicians will be appointed each year for six years. Examinations are conducted by the Secretary of the Navy, and any physician in good standing between the ages of twenty-one and thirty years, who is a citizen of the United States, is eligible.

M. Loubet, president of the French Republic, has contributed four hundred eighty pounds for the establishment of a dispensary for the treatment of tubercuiosis, the building to be erected in Paris, on a site provided by the municipality.

Doctor Julius B. Ransom, physician to the New York State prison, reports that one-fourth of the prisoners confined in that institution are tuberculous. Of two hundred fifty inmates, who have the disease, only fifty-four can be accommodated in the consumption ward.

The Health Commissioner of Milwaukee has recommended the purchase of sixty acres of land in the outskirts of that city for the purpose of founding an isolation hospital. The legislature of Wisconsin recently passed a bill granting permission to establish such a hospital, providing that it be located at least a mile from the city limits and six hundred feet from any thoroughfare.

Doctor Casey A. Wood, of Chicago, received the degree of D. C. L., *honoris causa,* from the University of Bishop's College on the occasion of the medical convocation of that institution, which was held in Montreal on the 24th of April last. Doctor Wood graduated from that school in 1887, and almost immediately became a member of its faculty of medicine, filling the chair of Chemistry and one or two other professorships for a period of ten years, after which he studied ophthalmology two years in Europe and finally settled in Chicago.

Governor Dole, of Hawaii, reports a marked decrease in leprosy on the islands in consequence of the strict precautions which have been exercised in deporting persons afflicted with the disease to the leper settlement at Molokai. The colony was established in 1866, in which year one hundred forty-one patients were segregated. In 1873, owing to a more stringent enforcement of the law, four hundred eighty-seven lepers were colonized. From this date until 1887 the average number of yearly acquisitions was one hundred forty-one. In 1888 five hundred seventy-nine patients were deported; in 1889 three hundred eight; in 1890 two hundred two, since which time the prevalence of the disease has gradually lessened. The yearly death rate has decreased from twenty per cent in 1871 to twelve per cent in 1900.

The authorities of the Maternity Hospital at Manila, have been compelled, because of lack of funds, to close the doors of that institution. Special effort was made by a committee of American, Spanish and Filipino women to maintain the hospital in a satisfactory manner, but sufficient assistance could not be procured. The Maternity is a relic of the days of Spanish rule, and was in a thriving condition at the inception of hostilities between Spain and the United States. Being supported almost entirely by Spanish donations the hospital was closed in 1898, but through the generosity of some philanthropic Filipinos was reopened last year. Recently, however, the inadequacy of volunteer support again forced the closure of the hospital. The children who were confined in the wards have been adopted by wealthy Filipino families.

RECENT LITERATURE.

REVIEWS.

SEXUAL IMPOTENCE.

THE profession are already well acquainted with this work, and the fact that a third edition has been demanded indicates to a degree their estimation of it. The author treats the subject in a straightforward, enthusiastic, logical manner.

*By Victor G. Vecki, M. D. W. B. Saunders & Company, Philadelphia.

GENITOURINARY DISEASES AND SYPHILIS.*

THE author very properly refers, in the preface, to the progress made during recent years in genitourinary surgery. That in itself is a sufficeint excuse for all good works on this subject. This volume is one of them. The writer systematicly and comprehensively covers the ground, eliminating the useless, retaining the useful, though old, and contributing from his own knowledge and experience. This book will make friends.

*By Henry H. Morton, M. D., Clinical Professor of Genitourinary Diseases in the Long Island College Hospital; Genitourinary Surgeon to the Long Island College and Kings County Hospitals, and to the Polhemus Memorial Clinic, et cetera. Illustrated with half-tones and full-page color plates. Pages xii-372. Size, 9½ by 7 inches. Price, extra cloth, $3.00 net, delivered. Philadelphia: F. A. Davis Company, Publishers, 1914-16 Cherry Street.

INTERNATIONAL CLINICS.*

BIOGRAPHIC sketches and portraits of Dr. S. Weir Mitchell and John A. Wyeth open this volume. Habitual constipation, thyroid poisoning, dilatation of the stomach, gastrointestinal autointoxication and the question of symphyseotomy versus Caesarean section are titles of some of the practical articles. This volume is unusually well illustrated. Of great value also is the review of the progress of medicine during the year 1901.

*Edited by Henry W. Cattell, A. M., M. D., Philadelphia, U. S. A., with the Collaboration of John B. Murphy, M. D., Chicago; Alexander D. Blackader, M. D., Montreal; H. C. Wood, M. D., Philadelphia; T. M. Rotch, M. D., Boston; E. Landolt, M. D., Paris; Thomas G. Morton, M. D., Philadelphia; James J. Walsh, M. D., New York; J. W. Ballantyne, M. D., Edinburgh, and John Harold, M. D., London, with Regular Correspondents in Montreal, London, Paris, Leipsic and Vienna. J. B. Lippincott Company, Philadelphia and London. Cloth, $2.00. Volume I, twelfth series, eighty-four illustrations, three colored plates.

A NURSES' GUIDE.*

THIS small work consists largely of abstracts of lectures delivered by the author before a class of nurses. They apply almost entirely to the nurses' side of operative work. As such they are of the highest order.

*By Nicholas Senn, M. D., Ph. D., LL. D., C. M., Chicago. W. T. Keener & Company, Chicago.

SAUNDERS' MEDICAL HAND-ATLASES: AN ATLAS OF OPERATIVE SURGERY.*

IN a former review we called attention to the excellent and practic character of this work. In this revised form the editor and publisher have included new descriptions and added a great many lithographic plates and text-figures, thereby enhancing the value of the book.

*By Doctor Otto Zuckerkandl, Privatdocent in the University of Vienna. Edited, with additions, by J. Chalmers DaCosta, M. D., Professor of the Principles of Surgery and of Clinical Surgery, Jefferson Medical College, Philadelphia, et cetera. Cloth, $3.50 net. Philadelphia and London: W. B. Saunders & Company, 1902.

APPLIED SURGICAL ANATOMY.*

THE author remarks in the preface that an original work on anatomy can no longer be written. It is possible, however, for a great variety in arrangement according to the end in view. He has a marked appreciation of the subject from a practic standpoint and has furnished us with a valuable text-book. The body is studied regionally and yet the essentials of each organ are duly presented.

*By George Woolsey, A. B. M. D., Professor of Anatomy and Clinical Surgery in the Cornell University Medical College; Surgeon to Bellevue Hospital, et cetera. Octavo, 511 pages, with 125 illustrations, including 59 full-page inset plates in black and colors. Cloth, $5.00 net; leather, $6.00 net. Lea Brothers & Company, Philadelphia and New York, 1902.

PHARMACOLOGY AND THERAPEUTICS; OR THE ACTION OF DRUGS.

SINCE the first edition of this work it has been standard of its kind. This revision, the second, is more perfect than the original. The author is one of those patient, painstaking investigators who enters personally into his subject and makes his knowledge first hand. It is especially valuable to the scientific student and worker.

*By Arthur R. Cushny, A. M., M. D., Professor of Materia Medica and Therapeutics in the University of Michigan, Department of Medicine and Surgery, Ann Arbor, Michigan. Third edition, revised and enlarged. In one handsome octavo volume of 750 pages, with 52 engravings. Cloth, $3.75, net; leather, $4.75, net. Lea Brothers & Company, Publishers, Philadelphia and New York, 1903.

PRACTICAL MEDICINE SERIES: VOLUME II.

THIS volume covers a broad field, reviewing all surgical subjects in which material progress has been made or changed views of a decided character held.

*Edited by John B. Murphy, M. D. The Year Book Publishers, Chicago.

SAUNDERS' MEDICAL HAND-ATLASES: AN ATLAS AND EPITOME OF OTOLOGY.*

THIS work considers the anatomy and physiology of the organs of hearing,—examination, pathology and treatment. It is a most instructive volume on these subjects.

*By Gustav Bruhl, M. D., Berlin, with the collaboration of Doctor A. Politzer, of Vienna. Edited, with additions, by S. MacCuen Smith, M. D., Clinical Professor of Otology in the Jefferson Medical College, Philadelphia. With 244 colored figures on 39 lithographic plates, 99 text illustrations, and 292 pages of text. Cloth, $3.00 net. Philadelphia and London: W. B. Saunders & Company, 1902.

SURGERY OF THE HEAD.*

THIS is the first of a series of books on everyday surgery. Particular attention is given to those conditions which one most frequently meets in surgical practice, while the rare and less important are not so fully considered. An effort has been made by the author to place his views before the reader in such a manner as not only to be understood but to make a lasting impression as well. The reference at the end of each chapter, to the important literature of the subject presented, is a desirable feature, and renders the book valuable for practicians and students alike. It is a handy and well written volume.

*By Bayard Holmes, M. D., Chicago. Published by D. Appleton & Company, New York.

INTERNATIONAL CLINICS: VOLUME III, TWELFTH SERIES.*

THIS volume contains seven articles on therapeutics, seven on medicine, seven on surgery, two on obstetrics and gynecology, four on diseases of the eye, ear and throat and two on special subjects. All are of a truly practic character and constitute a valuable book.

*Edited by Henry W. Cattell, A. M., M. D., Philadelphia, with the Collaboration of John B. Murphy, M. D., Chicago; Alexander D. Blackader, M. D., Montreal; H. C. Wood, M. D., Philadelphia; T. M. Rotch, M. D., Boston; E. Landolt, M. D., Paris; Thomas G. Morton, M. D., Philadelphia; James J. Walsh, M. D., New York; J. W. Ballantyne, M. D., Edinburgh, and John Harold, M. D., London, with Regular Correspondents in Montreal, London, Paris, Leipsic, and Vienna. Cloth, $2.00. J. B. Lippincott Company, Philadelphia and London.

THE MATTISON METHOD IN MORPHINISM.*

THE profession are naturally suspicious of any or all claims concerning habit cures and those who vaunt them. We have no personal knowledge of this method, but, from a perusal of this short monograph, feel warranted in recommending it to a wider circle of readers. The author modestly but confidently outlines a rational mode of treatment.

*By J. B. Mattison, M. D., E. B. Treat & Company, New York, 1902.

STAMMERING AND STUTTERING.*

THOSE of us who suffer no appreciable defects in body or mind are apt to overlook their importance in others who show them. Persons with notably defective speech may seem to be few in number, but according to some writers they number in the hundreds of thousands in this country alone. To them this book, by two workers in their special fields, will be a great boon. Particular emphasis is laid upon the treatment of these conditions.

*By George Andrew Lewis and George B. Hynson, M. A. Illustrated. Published by George Andrew Lewis, Detroit, 1902.

LIBERTINISM AND MARRIAGE.*

ALTHOUGH blennorrhea is the main topic discussed in this work, the author has by no means made it a text-book in the usual sense. He has rather treated the subject from a sociologic standpoint, and in a manner at which no one could take offense. The fact of its translation speaks well of the favor with which it has been received.

*By Doctor Louis Jullien, of Paris, Surgeon to Saint-Lazare Prison; Laureate of the Institute, of the Academy of Medicine, and of the Faculty of Medicine of Paris. Translated by R. B. Douglas. Size of page, 5½ by 7½ inches. Pages v-169. Extra cloth, $1.00 net, delivered. Philadelphia: F. A. Davis Company, Publishers, 1914-16 Cherry Street.

DISEASES OF THE EYE.*

THIS is the most comprehensive treatise on this subject by a single American author. The fact that a fourth edition is demanded only eleven years after the appearance of the first speaks of its favorable reception. In this revised edition may be noted marked changes and additions in both text and illustrations. The author has won a substantial place among the writers and readers of the profession.

*By G. E. deSchweinitz. A. M., M. D., Professor of Ophthalmology in the University of Pennsylvania, et cetera. Fourth edition revised, enlarged, and entirely reset. Octavo volume of 773 pages, with 280 text-illustrations and 6 chromolithographic plates. Cloth, $5.00 net; sheep or half Morocco, $6.00 net. W. B .Saunders & Company, Philadelphia and New York.

PRACTICAL MEDICINE SERIES: VOLUME X.*

THE reviews herein contained relate to skin and venereal diseases, and nervous and mental diseases. They are truly practic and will be found of decided help to the general practician.

*Edited by W. L. Baum, M. D., and Hugh T. Patrick, M. D. The Year Book Publishers, Chicago, 1902.

PROMPT AID TO THE INJURED.

THE author intimates in the preface to this small work that it was prepared with particular reference to nonmedical persons. Such will find it of the greatest value. Many in the profession also will doubtles find it instructive.

*By Alvah H. Doty, M. D., New York. D. Appleton & Company, New York, 1902.

THE PRINCIPLES AND PRACTICE OF BANDAGING.*

IT would seem that there were scarcely room for another separate text on this subject, and yet the author has treated it with such simplicity and fullness at the same time that it must appeal to both students and practicians.

*By Gwilym G. Davis, M. D., Philadelphia. Illustrated from original drawings by the author. Price, $1.00. P. Blakiston's Son & Company, Philadelphia, 1902.

INTERNATIONAL CLINICS.*

THE first volume of the thirteenth series of this important work has appeared. It is an excellent volume and will appeal both to the general practician and to the specialist. A change has been made in the editorial corps. The list of editors and collaborators is such an illustrious one as to insure a high-grade publication. The editor is Aloysius O. J. Kelly, of Philadelphia. The collaborators are William Osler, Baltimore; John H. Musser, Philadelphia; James Stewart, Montreal; John B. Murphy, Chicago; Thomas M. Rotch, Boston; John G. Clark, Philadelphia; James J. Walsh, New York; J. W. Ballantyne, Edinburgh; John Harold, London; Edmund Landolt, Paris; and Richard Kretz, Vienna. It is a quarterly of illustrated clinical lectures and especially prepared original articles on treatment, medicine, surgery, neurology, pediatrics, obsetrics, gynecology, orthopedics, pathology, dermatology, ophthalmology, otology, rhinology, laryngology, hygiene and other topics of interest to students and physicians. A chapter on the progress of medicine by E. W. Watson and. H. W. Cattell is interesting and instructive reading, giving in a nutshell a review of the leading events in the history of medicine and surgery during the past year. The various articles are well chosen, well written, and well illustrated.

*J. B. Lippincott Company, Publishers.

PRACTICAL MEDICINE SERIES: VOLUME III.*

This volume embraces the eye, the ear, the nose and the throat. It possesses the same practic features of authorship that characterize the other volumes of this series.

*Edited by Casey A. Wood, C. M., M. D., Albert H. Andrews, M. D., and T. Melville Hardie, A. M., M. D. The Year Book Publishers, Chicago, 1902.

INTERNATIONAL CLINICS: VOLUME IV, TWELFTH SERIES.*

This volume concludes a series of practic and exceedingly valuable clinical lectures and specially prepared articles. Through them the reader is put in touch with the masters of medicine throughout the world, for evidently the publishers have spared no trouble to make this publication the best possible. This particular collection is especially attractive and is sure to make many friends for the series to which it belongs.

*Edited by Henry W. Cattell, A. M., M. D., Philadelphia, with the Collaboration of John B. Murphy, M. D., Chicago; Alexander D. Blackader, M. D., Montreal; H. C. Wood, M. D., Philadelphia; T. M. Rotch, M. D., Boston; E. Landolt, M. D., Paris; Thomas G. Morton, M. D., Philadelphia; James J. Walsh, M. D., New York; J. W. Ballantyne, M. D., Edinburgh, and John Harold, M. D., London, with Regular Correspondents in Montreal, London, Paris, Leipsic, and Vienna. Cloth, $2.00. J. B. Lippincott Company, Philadelphia and London.

ANATOMY OF THE PERITONEUM AND ABDOMEN.*

To the average practician doubtless the study of anatomy becomes a bore. The memorizing of dry facts, even though they relate to blood-vessels, muscles and nerves, is persisted in only for their practic bearing upon the art of medicine and surgery. The author of this volume has, however, hit upon a less common aspect of the subject. He has considered the subject from the standpoint of development and comparative anatomy and by the aid of numerous elegant illustrations made it especially attractive. This work is only to be seen to be commended. It is divided into four parts, namely: Anatomy of the Peritoneum and Abdominal Cavity; Anatomy of the Peritoneum in the Supracolic Compartment of the Abodmen; Serial Review of the Ileocolic Junction and Connected Structures in Vertebrates; Morphology of the Human Cecum and Vermiform Appendix.

*By George S. Huntington, M. D., Professor of Anatomy in the College of Physicians and Surgeons, Columbia University, New York City. In one handsome quarto volume of 590 pages, including 300 full-page plates in colors and monochrome, containing 582 figures. De Luxe edition. Gilt top. Uncut edges. $10.00, net. Lea Brothers & Company, Philadelphia and New York, 1903.

PRACTICAL MEDICINE SERIES: VOLUME VII.*

We have here condensed the progress in materia medica and therapeutics, preventive medicine, climatology and forensic medicine. No comment is in place concerning the material. Criticism in this case would pertain only to method, which in this series is specially adapted to the needs of general practicians.

*Edited by George F. Butler, PhG., M. D. The Year Book Publishers, Chicago, 1902.,

DISEASES OF METABOLISM AND NUTRITION.*

The idea of the author is to supply to the profession in bound pamphlet form essays published in various periodicals and monographs in certain text-books, as well as current work by himself and his assistants. Obesity, the indications for reduction cures, is the title of Part I just issued. This section considers—(1) simple obesity in otherwise healthy subjects; (2) complications with other diseases.

The following themes are under consideration for future numbers of the series: The treatment of colica mucosa; the medical treatment of diabetes mellitus; indications for and the methods of pursuing feeding (most) cures; the technique of reduction cures; the significance of acetone in diabetes mellitus.

The publishers aim to have these sections appear as nearly simultaneously in America and Germany as possible. Doctor von Noorden's work is well known to the profession and the series of translations from the German will be welcomed in America. The books are written especially for the general practician.

*Doctor Carl von Noorden, Senior Physician to the City Hospital in Frankfort. Translated into English under the direction of Boardman Reed and published by E. B. Treat & Company, New York.

PROGRESSIVE MEDICINE.*

We have had occasion before to speak of the excellence of this work. The present volume is especially praiseworthy. The abstracts and commentaries on each subject are, with few exceptions, all that could be desired. The authors are men whose ability in their respective lines is well known. This in itself is enough to recommend the work. The present volume considers the following subjects: The surgery of the head, neck and chest—Charles H. Frazier; Infectious diseases, including acute rheumatism, croupous pneumonia and influenza—James B. Herrick; The diseases of children—Floyd M. Crandall; Pathology—Ludwig Kektoen; Laryngology and rhinology—Logan Turner; Otology—Robert L. Randolph. The idea of furnishing to the physician every three months a volume complete with index, containing a comprehensive review of the world's literature on special subjects, is a good one.

*A Quarterly Digest of Advances, Discoveries and Improvements in the Medical and Surgical Sciences. Edited by Hobart Amory Hare, M. D., Professor of Therapeutics and Materia medica in the

Jefferson Medical College of Philadelphia. Octavo, handsomely bound in cloth, 450 pages, illustrated. Per volume, $2.50, by express prepaid. Per annum, in four cloth-bound volumes, $10.00 Fifth annual series—Volume I, March, 1903. Lea Brothers & Company, Publishers, Philadelphia and New York.

PRACTICAL MEDICINE SERIES: VOLUME VIII.*

THIS volume covers the departments of pediatrics and orthopedic surgery. The reviews are very carefully made and reliable.

*Edited by W. S. Christopher, M. D., John Ridlon, A. M., M. D., and Samuel J. Walker, M. D. The Year Book Publishers, Chicago.

MEMORANDA ON POISONS.*

THIS might be called a vest-pocket manual of toxicology. It is certainly the handiest and most comprehensive little text on this subject that we have seen.

*By Thomas Hawkes Tanner, M. D., F. L. S. Ninth revised edition. By Henry Leffman, A. M., M. D. Price 0.75. P. Blakiston's Son & Company, Philadelphia, 1902.

CELLULAR TOXINS.*

THE work known as "Ptomains and Leucomains" appears in its fourth edition under the new title of "Cellular Toxins." "The advance in knowledge has rendered the chief title selected for former editions inappropriate." The authors have gathered together a mass of literature difficult to obtain elsewhere, and it is a matter of great misfortune that so important a part as the bibliography should have been omitted, thus making it necessary for the reader to possess the last edition, to which he is referred. Considerable space is given to the chapters on the specific precipitins, the lysins, bacteriolysis, hemolysis and the agglutinins, subjects which are receiving the attention of scientific workers at the present time all over the world. In this respect the book differs from the last edition in which the nucleins were given special prominence. Much of the subject matter in the older editions has been cut down to make room for newer and more advanced ideas on the chemistry of the infectious diseases. "Cellular Toxins" is the only book published in the English language in which the entire subject of the chemic factors in the causation of disease is fully considered.

*A Treatise on Cellular Toxins, or the Chemical Factors in the Causation of Disease. By Victor C. Vaughan, Ph. D., M. D., Professor of Hygiene and Physiologic Chemistry, and Frederick G. Novy, M. D., Junior Professor of Hygiene and Physiologic Chemistry, in the University of Michigan. New (fourth) edition, revised and enlarged. In one 8vo volume of 480 pages, with 6 illustrations. Cloth, $3.00 net. Lea Brothers & Company, Publishers, Philadelphia and New York, 1902.

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ORIGINAL ARTICLES.

MEMOIRS.

THE TREATMENT OF HYPERACIDITY OF THE STOMACH CONTENTS, WITH SPECIAL REFERENCE TO THE CARBOHYDRATE OR MEAT-FREE DIET.*

BY DAVID MURRAY COWIE, M. D., ANN ARBOR, MICHIGAN.
FIRST ASSISTANT IN INTERNAL MEDICINE IN THE UNIVERSITY OF MICHIGAN.

[FROM PROFESSOR DOCK'S CLINIC.]

HYPERCHLORHYDRIA is an exceedingly common and distressing condition, one that can in the majority of cases be readily relieved in a symptomatic way, but one that requires time and careful observation to cure. The majority of cases can be cured. By this I mean that the patient's stomach can be brought to a point where the secretion of hydrochloric acid is either reduced to what we call normal, or where the mucous membrane becomes more tolerant to a degree of acidity that formerly produced irritation.

When we speak of the treatment of hyperchlorhydria we mean not only the treatment of all conditions—whether in the stomach itself or apart from it—that produce or are accompanied by excessive output of hydrochloric acid, but also of other functional or organic conditions with which it is frequently associated. The scope of a paper treating upon all these conditions would be too great to consider at one time, so that what I have to say is limited to cases of true hyperchlorhydria and the care of this symptom group in other conditions only in so far as the measures mentioned herein may apply to any case.

The treatment may be conveniently described as hygienic, dietetic, and medicinal, including lávage, the prime object being, as stated before, to reduce the secretion of hydrochloric acid or render the stomach mucosa more tolerant.

Hygienic Considerations.—In all disorders of digestion, personal hygiene is an important factor in treatment too often neglected. The skin requires frequent cleansing and many home methods of hydrotherapy known to ali may be instituted. However, the mouth is the place where strict hygienic measures should be inaugurated. The cause of much of the distress in hyperacidity is due to so-called amylaceous dyspepsia. Neglected teeth, resulting in ulcerated gums and irritation of the already diseased tongue, gives little encouragement to the patient to masticate his food. There is no part of the treatment that is more frequently overlooked by physician and patient than this one. For this reason no apology is necessary for referring to it at this time. All old stumps and badly decayed teeth should be removed and above all the articulation must be looked after and good grinding surfaces provided. Thorough mastication of food swallowed before the patient sips his tea will often relieve distressing symptoms. People who eat fast often swallow much atmospheric air and this adds to the discomfort already set up by gases elaborated by the disintegration of food. The patient should be instructed to brush his teeth at least twice daily, better before and after meals and always before going to bed, for during the day the movements of the mouth and the more or less constant secretion of saliva tends to remove material from the teeth and gums while during the sleeping hours the conditions are reversed and decomposition goes on more rapidly. The tongue when badly coated should also be brushed frequently. A systematic examination of the tonsilar crypts will often reveal collections of food and decomposed stinking cheesy material. The tonsil should be pulled forward and the posterior portion explored. Bad taste in the mouth and bad breath may frequently be overcome by attention to these simple procedures. A better quality of saliva will result if the mouth is well cared for. If more attention were given to the importance of salivary digestion in the treatment of hyperacidity, fewer of the so-called diastatic preparations would be employed and better results obtained. Physicians are led to use many preparations purported to be active and rapid digesters of starch because they are put upon the market by "reputable" firms. They may be surprised to know that most of these preparations are absolutely inert. It takes but a few seconds for a small amount of good saliva to do a large amount of work. It takes on the other hand in cases of hyperacidity some minutes before free hydrochloric acid appears to check the action of ptyalin, so that in addition to the sojourn of the food in the mouth there remains a period during which salivary digestion is active in the stomach. It is quite well known to clinicians—although discountenanced by most physiologists—and has recently been confirmed by Pawlow, that the quality of the saliva differs with the kind of stimulus employed. Dry food calls forth an abundant secretion rich in ptyalin, while other stimuli may provoke a copious flow poor in ptyalin. This fact can be used to advantage in the treatment of unpleasant symptoms that sometimes accompany the use of certain kinds of diet.

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* Read at the Detroit meeting of the MICHIGAN STATE MEDICAL SOCIETY, June, 1903.

The newer physiology of digestion is explaining many of the facts which have guided clinicians for years in spite of the seeming evidence of physiologists to the contrary, and as digestive disturbances form a large part of the general practician's daily work, it is all-important that he acquaint himself with any trustworthy knowledge along these lines. Every physician will find much pleasure and will be greatly benefited if he reads Doctor Pawlow's book, "The Work of the Digestive Glands," now published in English by J. B. Lippincott Company.

Dietetic Treatment.—It has long been known that foods rich in albumen will bind large quantities of hydrochloric acid while those rich in carbohydrate elements bind very much less. It was therefore quite natural to expect that relief from gastric distress in hyperchlorhydria would be obtained by the use of such diet on the same principle that governs the general use of the so-called antacids, bicarbonate of soda, magnesia and sodium biborate; indeed many patients find this out for themselves, and accordingly the meat diet has enjoyed a good reputation and its great usefulness cannot be questioned. However, if one has had only an average experience with cases of hyperacidity he must certainly have met with those in which the best results were not obtained by a diet rich in meat. The patient will experience almost immediate relief after eating meat and this relief will continue for a number of hours according to the amount ingested but is followed by distress often more severe than it is after the use of a lighter diet composed of milk and bread. This fact, which I have frequently observed, would appear to lend support to the now quite firmly established opinion that meat acts as a greater chemical excitant of gastric secretion than some other albuminous bodies. It must be remembered, nevertheless, that there are men with wide experience in matters of this kind who dissent from this opinion, among them Riegel. Within the past few years methods of studying the secretion of gastric juice have been perfected which appear to enable us to decide such questions as these beyond doubt. The experiments it is true have been carried out upon the lower animals but they are of such a nature that their bearing upon similar processes going on in the human stomach can hardly be questioned.

Pawlow and his assistants have demonstrated that the quantity of gastric juice secreted from hour to hour is greater after flesh than after bread or milk, but that its peptic value is much less than that secreted after bread and that meat solutions stimulate a greater flow of hydrochloric acid than do carbohydrates. This is quite readily verified in certain cases of hyperchlorhydria in which it can be demonstrated that the average free hydrochloric acid value after a series of meat meals is greater than after a series of carbohydrate meals. In order that an experiment of this kind be trustworthy it is necessary that the time at which the height of digestion occurs be ascertained by the use of an experimental meal,[1] otherwise the stomach contents may be withdrawn during the decline of the acidity curve and a wrong interpretation of the condition be obtained. This point is well illustrated by the following charts. In chart one free hydrochloric acid B reached its height, fifty-three, fifty minutes after the patient began to eat, while the sample removed from the stomach after forty-five minutes showed hydrochloric acid value of but twenty-two, and an hour after its value had declined to thirty-six. In chart two the free hydrochloric acid B reached its height, fifty, forty minutes after the patient began to eat and remained at this point until fifty-five minutes after, declining to forty at the end of the hour.

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[1] The experimental meal which I have used for a number of years, and which has been employed under my direction many times during the past winter, consists in removing small samples of the test breakfast from the stomach every five or ten minutes for one hour and subjecting each to chemical analysis. From this test we also learn that in some cases of hyperchlorhydria the free acid appears much earlier than in others.

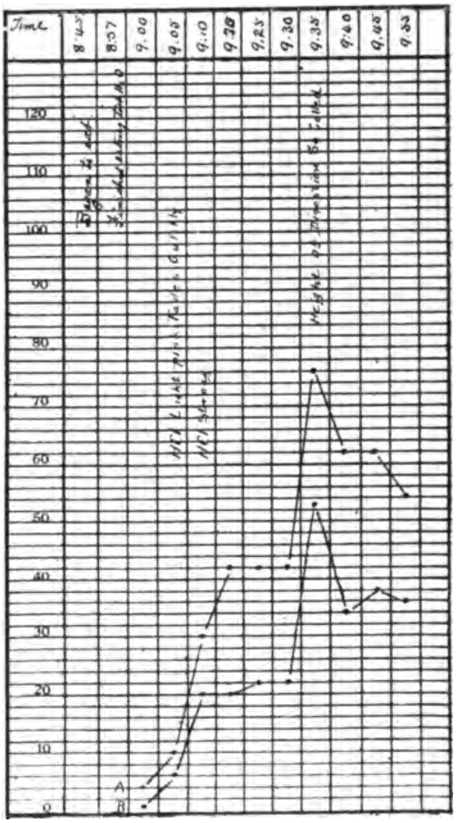

CHART I.—Miss H.: A—Total acidity; B—Free hydrochloric acid.

"The exact nature of the chemical excitant" of meat "remains as yet unexplained. The reality and significance of the fact is, however, in no way diminished." (Pawlow). Labassoff, working with Pawlow, has been able to remove these active bodies from Liebig's extraction of meat by digestion with absolute alcohol.

It is also a fact that the peptic value in hyperchlorhydria, if we compare it with the secretion of hydrochloric acid, may be quite low. The excessive hydrochloric acid inhibits at least the action and possibly the further secretion of pepsin. It was formerly thought that in all cases of hyperacidity the digestive power was increased and so far as our examination could go this was quite evident, for if an egg tablet was placed in a sample of stomach juice and digested, it was almost always found that digestion was far advanced within the alloted time, often sooner. This method, however, can only be said to be a qualitative one and because of the unlimited surface action, a fluid not especially rich in pepsin might show, in the presence of certain degrees of acidity, what we had designated normal amount of pepsin.

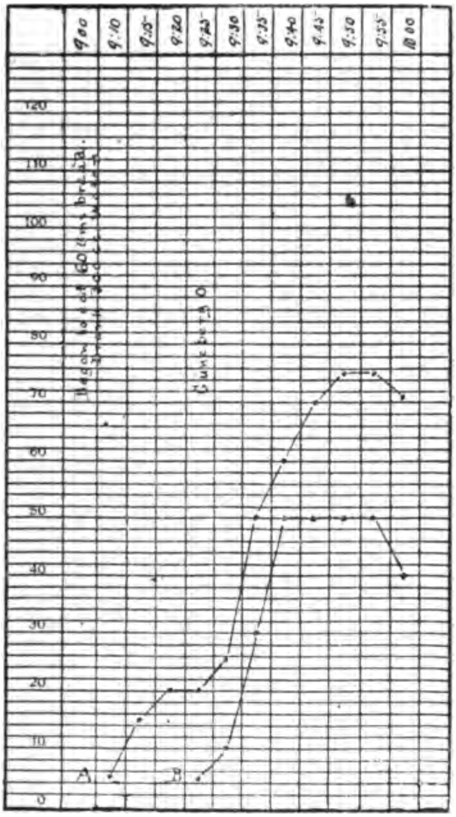

CHART II.—Mr. W.: A—Total acidity; B—Free hydrochloric acid.

The importance of a quantitative estimation of pepsin had long since suggested itself to me but the method of Hammerschlag was entirely too complicated to admit of practical application in the daily routine work of a busy laboratory, and Mett's method, though at that time in use and undergoing practical tests in Russia, had not yet gained much international popularity. It was not long, however, before we began to use Mett's method in our laboratory and since its introduction many important things have come to our notice, such as the association of degrees of hypopepsia and hyperpepsia with normal and hyperchlorhydria. The principle upon which the diet composed largely of meat is based is so apparent that a further dissertation is uncalled for. It must be said, however, that cases do occur in which only a meat diet will suffice.

As we have no foods that are composed entirely of carbohydrate elements we cannot designate a diet as strictly carbohydrate, nor can we on the other hand designate a diet as strictly albuminous unless we prohibited everything but flesh and eggs, and this would not be a wise thing to do. When I speak of a carbohydrate diet I mean more particularly a meat-free diet, and when I speak of a meat diet I mean one in which meat figures largely.

The treatment of hyperchlorhydria by the use of a diet rich in carbohydrates is based upon the fact that this class of foods is less stimulating to the gastric mucosa than the more nitrogenous articles of food, such as meat.

In a paper prepared for this society in 1901 I pointed out that no hard and fast lines can be fixed one side of which can be called normal, the other hyperchlorhydria. Each case is a law unto itself. We find people suffering from the symptoms of hyperchlorhydria when the free acid value never goes above forty and I have frequently observed apparently normal stomachs where the hydrochloric acid value was as high as seventy and seventy-five and no signs of irritation present.

The normal stomach is sometimes tolerant to high degrees of acidity, as can be readily demonstrated by taking hydrochloric acid in sufficient quantity to raise the free acidity to a value of seventy-five or eighty. If, however, such administration of hydrochloric acid is kept up from day to day symptoms of irritation will appear but will readily disappear by the taking of albuminous foods and the discontinuance of the acid. In hyperchlorhydria so long as anything irritating remains in the stomach the acid continues to be poured out and the chemical irritation is constantly maintained.

It is a well established fact that under normal conditions the stomach acts automatically, that is to say, that if a certain kind of food calls for a certain amount of acid it will be supplied and free acid will continue to appear until a more or less constant limit is reached. These same physiologic facts hold true in the pathologic condition of true hyperchlorhydria. At some time in the course of this condition it can be demonstrated that after a meal composed of one hundred grams of beef the free hydrochloric acid value will be greater than after a meal composed of one hundred grams of potato. It would appear, therefore, that we are able by this simple means to vary at will the value of hydrochloric acid in a given case, and that, if we can arrange a diet that will supply all the elements necessary for the maintenance of the organism by the use of articles of food rich in carbohydrates, that after its prolonged use the stomach would become accustomed to pour out smaller quantities of acid. I repeat, that herein lies the principle of the method.

In order to test the efficacy of any method of treatment it must be carried out persistently and systematically. Too often a good method is condemned because of the appearance of untoward symptoms during its application. It must be remembered that there is *a definite principle involved* and that when annoying symptoms arise they must be met in a symptomatic way. No one would think of depending entirely upon antitoxin for the treatment of a case of diphtheria; the antitoxin can accomplish but one thing—neutralize the poison. Neither must we expect that the carbohydrate diet will correct all the manifestations of hyperchlorhydria. The occurrence of distention and increased distress in the stomach are no immediate indication for the interdiction of the carbohydrate diet. In my experience it has been seldom that these symptoms could not be controlled by some simple measure, such as directions to be more careful in the mastication of food and abstinence from the pernicious habit of washing the food down with fluids. Nevertheless, *I do not wish to convey the impression that every case of hyperacidity will tolerate carbohydrate foods,* for some cases rebel in spite of all precautions. Nor do I wish to maintain that the carbohydrate diet is the best diet for cases of hyperacidity, but it has many points of value that ought to be considered.

In selecting a diet to be composed largely of carbohydrate elements a certain amount of discrimination is necessary. In cases showing signs of marked sensitiveness of the mucous membrane, articles containing small amounts of fibre are to be preferred and the coarser vegetables, as cabbage, turnips, asparagus, salads, and the fruits which are richer in wood fibre than any other class of foods, are to be avoided.

Much depends upon the cooking of carbohydrates. Grains should be cooked at least three hours in a double cooker and all must be rendered soft like porridge and contain plenty of water and milk as diluents. The leguminous foods if employed must be deprived of their coating by rubbing them through a cullender and thus making a puree. Potato is especially well borne and should be either baked and mashed, or boiled and mashed. Even fried or greased potatoes, such as German or French fries, are fairly well borne by many. Egg albumen, because of its nonstimulating effect upon gastric secretion, is of great value and is to be used along with the carbohydrate food. When introduced into the stomach in a fluid form Pawlow found that no greater secretion was obtained than with the same amount of water. No digesting work was necessary. That egg albumen is of value to the organism when administered in this way is shown by its effect upon the elimination of nitrogen in the urine (Rjosanzeff). Milk, a nitrogenous food, has little stimulating effect; it binds quite large amounts of acid and will often take the place of antacids for the relief of pain. The glass of milk between meals I cannot speak too highly of. It has an advantage over the alkalis in that because of its food value it is of use to the body. I know of one patient who always increased a little in weight during an attack of hyperchlorhydria. He attributed this to the pint of milk taken between meals.

We are also in possession of some facts that tend to show that fats inhibit gastric secretion. It is my custom to advise patients to eat plentifully of butter and cream, and olive oil in doses of two tablespoonful with each meal. The fats are especially valuable, when it is thought best to restrict the albuminous foods, because of their high caloric value, and they do not appear to interfere with the motor power of the stomach. Strauss has given as high as three hundred fifty grams of fat daily, only seven per cent of which was discoverable in the feces and much of this was saponified or in the form of fatty acids. Sugar may be freely used in the majority of cases for its inhibiting effect, and chocolate for its combining effect.

It is difficult to lay down any definite rules as to the number of feedings and the quantity to be given. The three-meal-a-day plan is the best upon general principles as the majority of cases of hyperacidity are among individuals who run, so to speak, on schedule time. Large, easily digestible meals are to be preferred in this class. Those who can devote their whole time to taking care of themselves may employ frequent light meals to advantage. Some patients quite often complain of the symptoms of hyperchlorhydria who, after a test breakfast, show a normal or possibly low hydrochloric acid value, but if an ordinary meal be withdrawn from the stomach at the time when the symptoms begin a high value of hydrochloric acid will be observed. The stimulus is greater than it was with the small meal. It is upon this principle that the method of feeding at frequent intervals is based.

The following chart illustrates the progress of a severe case of true hyperchlorhydria in a working man who was treated on the three-meal-a-day plan with carbohydrate or meat-free diet, and lavage. He has taken no flesh of any kind into his stomach from April 19, 1902, to the present time excepting once, when he ate plentifully of meat hash. Two or three hours after eating the hash he was taken with as severe pain as he had ever complained of, and the stomach contents removed by lavage at that time was very acid. The patient is now practically well although his secretion of acid is not as low as I hope to see it.

As in the other charts the lower curve represents free hydrochloric acid, the upper total acidity. The records of the first three days represent the acid values after the ordinary test breakfast, while the other records represent the acid values five hours after an ordinary carbohydrate or meat-free dinner. The two curves illustrate further the difference in the degree of free hydrochloric acid stimulation by a small meal and a large one.

Medicinal Treatment.—The treatment of hyperchlorhydria by medicines is limited almost entirely to the employment of alkalis. Some writers prefer one, some another, the majority a mixture of two or more alkalis. Objections have been raised as to the use of sodium bicarbonate on the ground that it causes considerable evolution of carbon dioxid gas, but as a matter of fact to many patients the effervescence in the stomach is quite pleasing and unless dilatation associated with atony is present little harm, if any, can come from its proper use. It is claimed by some that sodium bicarbonate stimulates a flow of gastric juice by reason of the sodium chlorid that is formed. Clinical experience, however, does not seem to bear out this idea, and the amount of sodium chlorid thus formed cannot be great. The fact that sodium bicarbonate, as well as other alkalis if given on an empty stomach, will stimulate hydrochloric acid to neutralize it, cannot be employed as an argument against its use, for no one would intelligently administer sodium bicarbonate at this time in hyperchlorhydria.

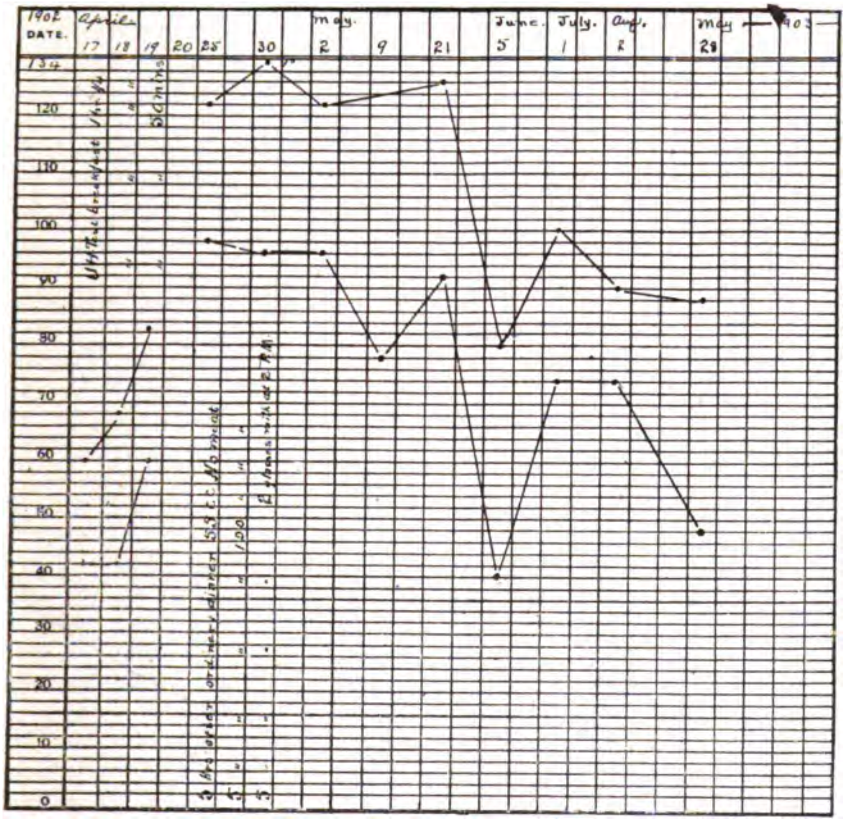

CHART III.—MR. P.

The light magnesia, magnesia usta, and the biborate of soda recommended so highly by Jaworski, are useful, especially when combined.

The *alkali mineral waters* may be employed to advantage. Foremost among these are Vichy and Carlsbad; they appear to have a beneficial effect in helping to reduce the secretion of acid. Especially is this so of Carlsbad, which has in addition to its alkali reaction slight cathartic properties quite sufficient to overcome the constipation associated with most cases. The other waters, Birliner, Saltera, Neueander, Fachinger and others, recommended by many writers, I have had no experience with. The Saratoga Vichy (Saint Louis, Michigan, spring) is equally as good as the imported Vichy but unfortunately it costs little less. The waters are best given two hours after meals in sufficient quantity to produce the required effect. Carlsbad ought always to be given in tumberful doses to get the laxative effect. Vichy is best given in milk; equal parts.

Of *medicines* that have been *used to reduce the activity of the glands,* belladonna, atropin and preparations of opium have been advocated. Belladonna and atropin lessen the secretion of the stomach glands in the same manner that they lessen the secretion of other glands. These alkaloids appear to have an effect in reducing the pain in hyperchlorhydria. I have only resorted to this method a few times, always with failure, however, to obtain relief from pain within a reasonable time. If patients are given atropin or belladonna continuously a reduction of the acidity will occur but will not be permanent. The atropin soon loses its effect and the dose has to be increased. The method I think can hardly appeal to one when the facts are known. Its effects cannot be otherwise than pernicious and its use should be condemned.

It is claimed that opium preparations reduce the secretion of the gastric glands because of their central action, but this subject requires further elucidation. These preparations, especially codein and codein phosphate, are valuable during paroxysms when other methods fail. Their effect then can only be in the reduction of pain, for the increased acidity is already present and unless it is reduced or the sensitive stomach benumbed the pain will not cease.

Lavage.—Stomach washings may be dispensed with as a rule in those cases which show normal or hypermotility. It is always better to reduce the number of stomach washings as much as possible. If in a certain case there is a hypersecretion of mucus it might be well to wash the stomach, but in many of these cases the fasting stomach is found to contain little or no mucus. The secretion of mucus during the meal and period of hyperchlorhydria has an effect to lessen the irritation of the acid and for this reason it is probably poured out. In those cases wherein it appears to be limited or absent demulcent solutions, flaxseed, gum arabic and slippery elm are at times very grateful to the patient. Mucin has been recommended, but I have been unable to get a good solution of the powdered article. The stomach may be washed with these mixtures or they may be administered by mouth.

When there are signs of retention or atony lavage should be carried out systematically. Simple warm water or water to which a little Carlsbad salts or sodium bicarbonate is added, a teaspoonful to the quart, may be used. Too much alkali must be avoided and should only be used when the stomach is found to be acid. Silver nitrate has also been recommended both as a douche and by mouth, but my experience with this method has been too limited for an opinion.

Lavage is often the only means whereby the extreme pain, even in cases where the stomach is empty, can be relieved, and in beginning cases it will frequently terminate the condition after several treatments.

Washings should always be thorough and discontinued when the water returns clear after agitation.

Diastase and other Ferments.—The theory of the use of diastatic products is very reasonable but the practice does not give the results one would be led to expect. This is explained by the fact that the majority of these preparations are either entirely inactive or very slowly active. I have already called attention to this matter. A good diastase could be used to advantage in cases showing distension after carbohydrate foods, if administered along with the meal or directly after. But attention to the chewing of food and the use of dry zwieback at the beginning of each meal will frequently obviate the necessity for these substances.

Papoid preparations have been warmly recommended in hyperacidity. I think there is little reason manifested in such recommendation. Peptic digestion is almost always good, though hypopepsia may occur. I only speak of this to condemn it. In papoid preparations a worse condition of affairs exists than in diastase preparations, for with the latter a proper ferment reaction may sometimes be obtained with a few preparations. Most papoid preparations are inert.

Constipation will often be overcome simply by the use of antacids, frequently by lavage and the establishment of good habits. Foremost among the cathartics I place rhubarb, the powdered extract which I give together with the antacid. Bitter cascara, if a reliable preparation can be obtained, comes next in value. As the case improves these remedies should be gradually removed. Massage of the bowels will often take the place of cathartics This may be accomplished by a masseur or by the use of a cannon ball rolled around the belly for ten minutes before rising in the morning and followed by a glass of cold water. Prunes and sugar may be tried. It will be seen that all of these methods of treatment are dependent the one upon the other. They will in time, if judiciously prescribed, bring about more or less permanent relief.

Special symptoms are to be treated according to well-known principles governing their care in other stomach states. Peptic ulcer must always be excluded before instituting too radical measures, and it must be ascertained whether the hyperacidity is reflex from pathologic conditions in other parts of the body, as the uterus and the gall-bladder.

The etiology of each case must be carefully considered and as far as possible the cause removed. Efforts should be made to make the patient's life as equable as possible. A patient who is in the habit of worrying will often get well with little medicinal aid if this symptom can be relieved. It will be found that the patient has often to be treated in preference to the disease.

Now as to the question of the apparent recovery of cases of hyperacidity so far as the distress is concerned. Not infrequently a patient recovers, but on repeated examinations it will be found that the average secretion of hydrochloric acid remains only a little below the highest point it attained during his acute illness. In such a case all the characteristic symptoms of hyperchlorhydria may have been present and the stomach analysis may have shown persistent hyperchlorhydria. How can this be explained? We can only conclude that we have been dealing with a case of hyperesthesia and that the hypersensitive mucosa has become tolerant to what we call an increased acidity. Because our experience in the stomach laboratory has shown us high hydrochloric acid values in a number of apparently normal individuals selected with the view of ascertaining normal stomach states we cannot say that a case like the one in question is really one of hyperchlorhydria for that individual. We find the same condition of hyperesthesia in individuals whose free acid secretion is within the so-called normal limits and when they are treated as we treat a case of hyperchlorhydria they are relieved of their distress.

FIBROMATA AS COMPLICATIONS OF PREGNANCY.

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Uterine fibromata as complications of pregnancy have been discussed thoroughly in the medical journals during the past two years. So true is this that if one were to judge by the number of such articles alone, he would be forced to the conclusion that the complication is met with more frequently now than formerly. Such, however, is probably not the case. A better explanation seems to be that here, as elsewhere, the obstetrician is attempting to rid himself of antiquated, expectant lines of treatment for all cases and is endeavoring to formulate rules for the adoption of the more modern surgical methods in certain other cases. During the past decade the technique of pelvic and abdominal surgery has been so perfected that at the present time we can advise safely and with complete confidence for the complication under consideration, certain surgical procedures which would have been inadvisable and rash fifteen years ago. This does not mean, however, that every pregnant woman with a fibroid tumor should be operated upon. That the abdomen can be opened and one or more uterine growths be removed with safety at all stages of pregnancy, should not relieve the obstetrician from the necessity of studying carefully his cases with a view of deciding which should be allowed to go to full term and which should be operated upon. Indiscriminate operating for the removal of such growths is as unscientific and objectionable as is the far too frequent practice of some surgeons to spend but scant time endeavoring to ascertain the exact nature of a pelvic lesion or abdominal growth, remaining satisfied with the thought that the diagnosis will be much easier after the abdomen is opened. Such methods are not only shiftless and unwarrantable, but they lead to unnecessary operations and often to grave mistakes.

If, then, we eliminate the two extremes of treatment of pregnancy complicated by uterine fibromata, operation for every sizable tumor, and nonoperation, no matter how severe may be the symptoms, the

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* Read at the Detroit meeting of the Michigan State Medical Society, June, 1903.

problem before us is by no means an easy one. Its solving is worthy of our serious consideration, and should give food for thought even to those who consider all gynecologic and obstetric questions settled and are passing upward in their operative work even beyond the diaphragm.

The pregnant fibromatous uterus presents three factors for consideration. These are in order of importance:

(1) The location of the growth both with reference to other parts of the uterus and its relative position within the pelvis.

(2) The size and mobility of the uterine tumor.

(3) The period of gestation at which the growth is discovered or gives rise to symptoms.

(1) *Location of the Growth.*—Submucous fibroids, because of the resulting hyperemia and changes in the endometrium, are frequent causes of sterility or abortions during the first or second months of pregnancy. When the ovum is retained longer, the dangers of infection are increased and in the presence of strangulated or sloughing submucous polypi, death may result from absorption even when the products of conception come away or are removed. It is by no means always an easy task to dilate the cervix and remove fetus and membranes from a canal distorted by submucous growths. In certain cases hysterectomy, either from above or below, is much safer.

Interstitial and subperitoneal fibromata, while less liable to give rise to intrauterine infection than are the submucous growths, are far more liable to produce pressure symptoms or to interfere mechanically with delivery. A tumor located in the lower uterine segment is most apt to cause trouble as pregnancy advances. It is liable to become wedged in the pelvis, as this part of the uterus does not rise relatively very far into the abdomen and the tumor is not carried over the pelvic brim. A growth, on the other hand, situated higher up on the uterus, especially if near the fundus, is carried easily above the pelvic brim and only its extreme size will cause it to give rise to pressure symptoms.

(2) *Size and Mobility of the Growth.*—The smaller growths, if favorably situated, have been known to occasion sepsis and pressure symptoms. It is not common to see the larger tumors associated with pregnancy. If sterility has not resulted from the mucosal changes, the weight of the tumor and its excessive blood supply, usually leads to an early abortion. It is not always easy to make a diagnosis of pregnancy in a large sized fibroid uterus. Sudden and rapid increase in the size of the tumor mass should arouse one's suspicions, even if cessation of menstruation and other confirmatory signs of pregnancy be wanting. Some five years ago I removed a large fibroid from a negress of thirty-three whom I had had under observation for some months. The menstrual flow had not ceased and the only signs of pregnancy were nausea and vomiting, which were ascribed to the pressure of the growth on the abdominal viscera. At the time of the operation, I thought I had to deal with a large fibrocyst of the uterus. However, an examination of the specimen revealed a four months' fetus in addition to the fibroid formations.

Perhaps of more importance than size, is the mobility of the growth. The less sessile and therefore the more movable the tumor, the greater chance it has to rise above the superior strait as the uterus enlarges, or slip by the fetus as the latter descends through the birth canal. Perhaps the most dangerous complications as regards impediment to labor arise from intraligamentous growths, or those tumors whose lobes grow deep down in the pelvis. It is not uncommon in operating upon growths of this last variety in the unimpregnated uterus, to be unable to lift them from the pelvis even after the expenditure of considerable force, so tightly are they wedged. In the presence of such growths, delivery becomes impossible without artificial aid. On the other hand, too great mobility, possible in the presence of a long pedicle, may prove dangerous as it may lead to a twist of the latter. This complication should be borne in mind in the presence of sudden symptoms, as twist of the pedicle is known to be not uncommon in the pregnant woman, especially with ovarian growths.

(3) *Period of Gestation.*—Pregnant uteri, the seat of fibroid changes, may be divided into two classes according to the viability or nonviability of the fetus. So great are the chances of miscarriage, where the complication under consideration exists, that before the viability of the child the life of the latter should receive but slight consideration, as compared with the safety of the mother. After the sixth or seventh month, however, when the chances of a full-term pregnancy are much greater, the interests of the child must be considered almost equally with those of the mother. In the early stages of pregnancy attempts should be made to lift the tumor above the pelvic brim, if it be situated deep in the pelvis and if it is producing pressure symptoms. If this be impossible, or if the growth cannot be retained in its new position I would unhesitatingly, if pressure symptoms exist, advise its removal. As regards choice of operation, the same rules apply as in the nonimpregnated organ, except of course the cavity of the pregnant uterus cannot be entered. Subperitoneal and even interstitial growths of considerable size can be removed and pregnancy be uninterfered with. I have reported recently a case of removal of an interstitial fibroid the size of a child's head from the lower uterine segment at the fifth month. The convalescence was normal and the pregnancy was not interrupted.

To my mind pressure symptoms are greater indications for interference than the size or position of the tumor. I remember distinctly being called in consultation some years ago in the case of a negress four or five months pregnant. The uterus was multinodular, the lobes sprouting out in all directions. It did not seem that a woman with such a uterus could be safely delivered. Yet the patient, refusing operation, went to full term and had an easy, normal delivery. I was not present at the labor, but her physician informed me that the various lobes were lifted over the brim as labor progressed and the child passed safely through the birth canal.

If labor has already begun and the position, together with the immobility of the tumor, makes it improbable that the fetus can pass through the pelvis, an abdominal operation is always preferable to the application of forceps or version. Nor should much force be used in attempts to lift the tumor or tumors above the pelvic brim. All of these attempts may easily be productive of laceration of the soft parts with resulting sepsis, or if too great force be employed, rupture of the uterus may result.

The number, size and position of the new growths will determine the exact nature of the operation, once the abdomen be opened. If there be but a single growth, and it can be removed easily, myomectomy may be performed and the labor allowed to continue by the natural channels. This would be the exceptional case, however. The choice would lie between Cesarean section and supravaginal or panhysterectomy. Cesarean section may also be combined with myomectomy; that is, the incised uterus may be closed after enucleation of the growth. In the presence of multiple or unfavorably-situated tumors, undoubtedly a panhysterectomy would be best.

A DAILY STUDY OF FOODS PRODUCING OR NOT PRODUCING CASTS, FATTY EPITHELIA, AND ALBUMIN IN URINE.

BY EPHRAIM CUTTER, M. D., NEW YORK.

[CONTINUED FROM MAY NUMBER.]

PLEASE compare the urine with the preceding breakfast (B.), lunch (L.), dinner (D.).

March 1.—(U.): A few false kidney casts.

(B.): Apricots; beefsteak; bacon and eggs fried; baked potato; whole wheat mush dextrosed and cream; coffee and cream; water.

(L.): Beefsteak; baked potato; whole wheat mush dextrosed and cream; coffee; dates.

(D.): Vegetable soup; roast mutton; boiled potato; Hubbard squash; tomato; milk; water; dates.

March 2.—(U.): Slight trace of albumin.

(B.): Banana; Hamburg steak; coffee and cream; whole wheat mush dextrosed and cream; stewed peaches.

(L.): Soup; roast turkey, dark meat; turnip; potato; Lima beans; mince pie; banana fritters; coffee and cream.

(D.): Cold roast pork; baked potato; oyster stew; dates; whole wheat mush dextrosed and cream; water.

March 3.—(U.): Slight bile.

(B.): Banana; Hamburg steak; baked potato; coffee and cream; whole wheat mush dextrosed and cream.

(L.): Same as breakfast, with dates; no banana.

(D.): Bean soup; roast beef; string beans; water; baked potato; boiled cabbage; cream; dates.

March 4.—(U.): Slightly amyloid, with bile.

(B.): Hamburg steak; coffee and cream; whole wheat mush dextrosed and cream.

(L.): Hamburg steak; baked potato; coffee and cream; whole wheat mush dextrosed and cream.

(D.): Macaroni soup; roast beef; potato, baked; water; milk; bread; banana; butter; apple pie and cheese.

Intermediate.—10:30 P. M.: Oyster stew, plain.

March 5.—(U.): Almost normal.

(B.): Hamburg steak; one banana; coffee; water; mustard; whole wheat mush dextrosed and cream.

(L.): Same as breakfast.

(D.): Soup; codfish; roast chicken, thigh; turnip; water; milk.

March 6.—(U.): Slight catarrh.

(B.): Hamburg steak; baked potato; prunes; coffee; whole wheat mush dextrosed and cream.

(L.): Hamburg steak; baked potato; coffee and cream; Indian pudding; Heinz mustard pickles.

(D.): Chicken soup; roast mutton; boiled potato; turnip; cranberry sauce; cream; water; whole wheat mush dextrosed and cream; pickles.

March 7.—(U.): Normal.

(B.): Banana; coffee and cream; whole wheat mush dextrosed and cream; Hamburg steak; pickles.

(L.): Hamburg steak; coffee and cream; whole wheat mush dextrosed and cream; baked potato; pickles; health food bread.

(D.): Clam chowder; salmon trout, aquatic; string beans; boiled potato; mince pie; cheese; pickles; water; milk.

March 8.—(U.): Normal, almost.

(B.): Hamburg steak; coffee; whole wheat mush dextrosed and cream; baked potato; dates.

(L.): Same as breakfast.

(D.): Soup; boiled mutton; baked potato; apple pie; turnip; water; milk.

March 9.—(U.): Catarrh; slight albumin, due to soup.

(B.): Banana; Hamburg steak; baked potato; coffee and cream; whole wheat mush dextrosed and cream.

(L.): Oyster stew; cold corned beef; peaches, stewed; baked potato; pickles; water; cream.

(D.): Soup; turkey, dark meat; turnip; Lima beans; cranberry sauce; coffee and cream; mince pie; cheese.

March 10.—(U.): Slight catarrh.

(B.): Hamburg steak; baked potato; whole wheat mush dextrosed and cream; water; coffee and cream.

(L.): Same as breakfast.

(D.): Vegetable soup; *tough* corned beef; banana fritters; mashed potato; roast mutton; turnip; cabbage; raisin pie; cheese; water.

March 11.—(U.): Normal.

(B.): Hamburg steak; coffee and cream; whole wheat mush dextrosed and cream; pickles.

(L.): Same as breakfast.

(D.): Soup; roast beef; turnip; cranberry sauce; bread and butter; string beans; pumpkin pie; water.

March 12.—(U.): One kidney cast found; slight catarrh.

(B.): Apricots; Hamburg steak; baked potato; butter; coffee and cream; whole wheat mush dextrosed and cream.

(L.): Hamburg steak; whole wheat mush dextrosed and cream; water; dates.

(D.): Roast pork, chine; apple sauce; peas; boiled potato; cheese; water; cream.

March 13.—(U.): Slight catarrh; two kidney casts.

(B.): Beefsteak; small slice of bacon; clear coffee; whole wheat mush dextrosed and cream.

(L.): Hamburg steak; baked potato; water; whole wheat mush dextrosed and cream; nuts; dates.

(D.): Soup; boiled chicken; cranberry sauce; baked potato; water.

March 14.—(U.): Slight haze of albumin.

(B.): Hamburg steak; coffee; baked potato; whole wheat mush dextrosed and cream.

(L.): Same as breakfast, plus dates.

(D.): Clam chowder; roast mutton; baked potato; spinach; whole wheat mush dextrosed and cream.

March 15.—(U.): Very slight albumin.

(B.): Banana; Hamburg steak; also beefsteak; coffee and cream.

(L.): Hamburg steak; whole wheat mush dextrosed and cream; water.

(D.): Soup; roast beef; turnip; boiled potato; bread and butter; mince pie and cream; milk; water.

March 16.—(U.): Almost normal.

(B.): Banana; Hamburg steak; coffee; whole wheat mush dextrosed and cream; dates.

(L.): Oyster stew; cold roast mutton; bread; rolls; mince pie; cheese; whole wheat mush dextrosed and cream; water.

(D.): Soup; roast turkey, dark meat; onions; cranberry sauce; mince pie; cheese; whole wheat mush dextrosed and cream; water.

March 17.—(U.): Normal.

(B.): Hamburg steak; butter; coffee; dates; whole wheat mush dextrosed and cream.

(L.): Hamburg steak; baked potato; coffee and cream; mince pie; cheese; dates.

(D.): Soup; roast beef; boiled ham; potato; spinach; whole wheat mush dextrosed and cream; water.

March 18.—(U.): Slight catarrh and one kidney cast.

(B.): Hamburg steak; butter; coffee; dates; whole wheat mush dextrosed and cream.

(L.): Hamburg steak; cream; water; baked potato; rice pudding; dates.

(D.): Soup; baked veal; spinach; boiled potato; whole wheat mush dextrosed and cream; water.

March 19.—(U.): Kidney casts; fatty epethelia; slight catarrh.

(B.): Hamburg steak; butter; coffee; whole wheat mush dextrosed and cream.

(L.): Hamburg steak; butter; baked potato; snatch of roll; whole wheat mush dextrosed and cream; dates; water.

(D.): Pea soup; turkey, dark meat; boiled potato; cranberry sauce; whole wheat mush dextrosed and cream; water.

March 20.—(U.): Albumin.

(B.): Raw apple, Baldwin; Hamburg steak; coffee; whole wheat mush dextrosed and cream.

(L.): Hamburg steak; coffee; whole wheat mush dextrosed and cream; dates.

(D.): Soup; New England boiled dinner of cabbage, turnip, potato, and corned beef; water; banana pudding; dates.

March 21.—(U.): Slight albumin.

(B.): Apricots; Hamburg steak; coffee; whole wheat mush dextrosed and cream.

(L.): Same as breakfast, plus dates.

(D.): Soft clam chowder; roast pork, chine; baked potato; Lima beans; blueberry pie; whole wheat mush dextrosed and cream; water.

March 22.—(U.): Slightly bilious.

(B.): Banana; Hamburg steak; coffee; whole wheat mush dextrosed and cream.

(L.): Hamburg steak; baked potato; coffee and cream; dates; rice pudding.

(D.): Soup; boiled mutton; potato; Boston brown bread and butter; onions; dates; water, cold; mouthful of baked beans.

March 23.—(U.): Albumin, slight; filamentous and protoplasmic catarrh; false and true kidney casts.

(B.): Banana; Hamburg steak; coffee; whole wheat mush dextrosed and cream.

(L.): Oyster chowder; cold tongue; water; baked potato; dates; whites of two eggs.

(D.): Soup; roast turkey, dark meat; boiled potato; Boston brown bread; macaroni; dates; mince pie; cheese; water.

March 24.—(U.): Slightly bilious.

(B.): Banana; Hamburg steak; baked potato; coffee; dates; whole wheat mush dextrosed and cream.

(L.): Hamburg steak; coffee and cream; baked potato; butter; rice pudding.

(D.): Soup; roast pork; boiled potato; Lima beans; apple pie; onions; one cup of coffee with cream; water.

Intermediate.—Ice cream, cake and water at meeting of Cambridge Medical Society.

March 25.—(U.): A few filaments of catarrh, otherwise almost normal.

(B.): Hamburg steak; coffee and cream; bacon relish; whole wheat mush dextrosed and cream.

(L.): Soda cracker and peanut cheese; Hamburg steak; coffee; dates; whole wheat mush dextrosed and cream.

(D.): Soup; roast mutton; baked potato; water; cream; rhubarb pie; cheese.

March 26.—(U.): Normal.

(B.): Banana; Hamburg steak; coffee; water; whole wheat mush dextrosed and cream.

(L.): Hamburg steak; coffee; baked potato; dates.

(D.): Soup; roast turkey, dark meat; boiled potato; cranberry sauce; water; whole wheat mush dextrosed and cream.

March 27.—Normal.

(B.): Banana; Hamburg steak; coffee; apple pandowdy; whole wheat mush dextrosed and cream.

(L.): Hamburg steak; coffee; dates; water; cream; whole wheat mush dextrosed and cream.

(D.): New England boiled dinner; apple pie; cheese; coffee and cream; cabbage; water.

March 28.—(U.): Bile; casts, abundant.

(B.): Hamburg steak; butter; coffee and cream; whole wheat mush dextrosed and cream.

(L.): Same as breakfast.

(D.): With classmate Moulton (B. C.):—Tomato soup; roast turkey; mashed potato; cocoanut cakes; almonds; ice cream; one piece of soft candy; bread and butter; water.

March 29.—(U.): Slight albumin and considerable bile.

(B.): Hamburg steak; coffee; water; whole wheat mush dextrosed and cream.

(L.): Same as breakfast, with rice pudding.

(D.): Beefsteak; Boston brown bread; spring water; apple pie; dates; cheese.

March 30.—(U.): Bilious; fatty epithelia; true and false casts.

(B.): One-half peach; Hamburg steak; coffee and cream; boiled ham; whole wheat mush dextrosed and cream.

(L.): Oyster soup; cold lamb and ham; baked potato; apricot sauce; dates; water.

(D.): Veal soup; roast turkey, dark meat; macaroni; boiled potato; mince pie; cheese; coffee and cream.

March 31.—(U.): Almost normal.

(B.): Baked apple; Hamburg steak; corn bread; baked potato; coffee and cream.

(L.): Hamburg steak; coffee; whole wheat unground (soaked and then cooked in water bath) and cream.

(D.): Soup; roast lamb; Lima beans; water; boiled potato; dates; apple pie and cheese; butter.

April 1.—(U.): One kidney cast; bile.

(B.): Hamburg steak; baked potato; coffee and cream; wheat as in lunch on the 31st ultimo.

(L.): Sirloin steak; Boston brown bread; butter; coffee; water.

(D.): Hamburg steak; pickles; entire wheat bread (so-called); coffee and cream; water; mince pie; sage cheese; dates.

April 2.—(U.): Abundant kidney casts, both kinds; mucous—ameba unknown.

(B.): Hamburg steak; Boston brown bread; coffee and cream; whole wheat mush dextrosed and cream.

(L.): Hamburg steak; coffee and cream; roast apples; chowchow; mince pie; cheese.

(D.): Hamburg steak; water; whole wheat mush dextrosed and cream; dates; cheese; apple pudding.

April 3.—(U.): Slight albumin.

(B.): Hamburg steak; coffee and cream; cheese; baked apple; mince pie, hot.

(L.): Corned beef; whole wheat mush dextrosed and cream; coffee; water; pudding; dates.

(D.): Cold corned beef; boiled potato; lemon; apple; dates; butter; English breakfast tea.

April 4.—(U.): Some true and false kidney casts.

(B.): Hamburg steak; coffee; boiled potato; baked apple; mince pie.

(L.): Soup; roast beef; baked potato; butter; spinach; custard pie; water.

(D.): Cold corned beef; roast apples; butter; whole wheat mush dextrosed and cream; cheese; dates; water.

April 5.—(U.) Slight albumin.

(B.): Hamburg steak; baked apples; butter; coffee; whole wheat mush dextrosed and cream.

(L.): Tripe; roast apples; whole wheat mush dextrosed and cream; dates; mince pie and cheese; English breakfast tea; milk.

(D.): Cold corned beef; boiled potato; pickles; whole wheat mush dextrosed and milk; lemon; milk and water; fruit pudding, very small quantity.

April 6.—(U.): Normal.

(B.): Cold beef tongue; coffee; apple; cheese; whole wheat mush dextrosed and milk.

(L.): Cold beef tongue; roast apple; pickles; mince pie; dates; water; whole wheat mush dextrosed and milk.

(D.): Tripe; whole wheat mush dextrosed and milk; cheese; orange; fruit pudding; dates; water; milk.

April 7.—(U.): Catarrh, with true and false kidney casts.

(B.): Hamburg steak; butter; baked potato; orange; whole wheat mush dextrosed and milk; coffee and milk; cheese.

(L.): Quahaugs (hard clams) dug today, fresh from our own shore, and juice; beef tongue; baked potato; pickles; English breakfast tea; orange; seedless raisins; Brazil nuts.

(D.): Tripe; beef tongue; pickles; English breakfast tea; whole wheat mush dextrosed and milk.

April 8.—(U.): Slight albumin and bile; true and false kidney casts, plenty. Probably the beef tongue caused this condition.

(B.): Sausages; bacon; potato and butter; coffee and milk; whole wheat mush dextrosed and milk.

(L.): Cold beef tongue; roast apple; whole wheat mush dextrosed and milk; butter; English breakfast tea and milk; water; lemon; Brazil nuts; seedless raisins.

(D.): Steamed soft clams and rice; roast apple; English breakfast tea and milk; whole wheat mush dextrosed and milk.

April 9.—(U.): Abundant false and true kidney casts; filamentous catarrh; fatty epithelia.

(B.): Fried eggs and bacon; coffee and cream; roast apples; baked potato; cheese; whole wheat mush dextrosed and milk.

(L.): Sausages; raw fried potato; baked apples; cheese; English breakfast tea and milk; orange.

(D.): Steamed clams, cold; one boiled egg; cheese; dates; English breakfast tea; whole wheat mush dextrosed and cream.

April 10.—(U.): Bile; true and false casts; amyloid; filamentous catarrh—all slight.

(B.): Dates; bacon and eggs; coffee; rye and wheat cake; baked potato; distilled water; lemon.

(L.): Hamburg steak; baked potato; pickles; lemon; English breakfast tea; whole wheat mush dextrosed and cream; water.

(D.): Hamburg steak; English breakfast tea; roast apple; cheese; whole wheat mush dextrosed and cream; water.

April 11.—(U.): Normal.

(B.): Beef tongue, boiled; coffee and cream; whole wheat mush dextrosed and cream.

(L.): Hamburg steak; pickles; English breakfast tea; cream; sago and date pudding; lemon; water.

(D.): Beef tongue, cold; cereal coffee and cream; molasses cake; lemon; water; whole wheat mush dextrosed and cream.

April 12.—(U.): Slight albumin; pseudocasts, three; bile.

(B.): Hamburg steak; coffee and cream; baked potato; whole wheat mush dextrosed and cream; milk.

(L.): Cold beef tongue; baked potato; coffee and banana; orange; fruit pudding of sago, dates and citron.

(D.): Hamburg steak; cranberry sauce; whole wheat mush dextrosed and cream; English breakfast tea.

April 13.—(U.): Slight albumin; bile.

(B.): Hamburg steak; cranberry sauce; coffee and cream; whole wheat mush dextrosed and cream; cheese; lemon; water.

(L.): Hamburg steak; coffee and cream; roast apple; whole wheat mush dextrosed and cream.

(D.): Three boiled eggs, butter and pepper; dates; raisins; hot water.

April 14.—(U.): Slight albumin and bile; casts.

(B.): Beef tongue; eggs; coffee and cream; whole wheat mush dextrosed and cream.

(L.): Whites of eggs; Hamburg steak; milk; English breakfast tea; cranberry sauce; cheese; lemon; whole wheat mush dextrosed and cream.

(D.): Boiled and broiled ham; boiled egg; custard; whole wheat mush dextrosed and cream; water.

April 15.—(U.): Bilious; albumin; casts; false casts; filamentous and protoplasmic catarrh, slight.

(B.): Boiled ham; coffee and cream; baked potato; distilled water; lemon; whole wheat mush dextrosed and cream.

(L.): Rump steak; French fried potatoes; coffee and cream.

(D.): Oysters, plain roast; water; vinegar; pickles. At granddaughter's wedding. I consumed only two glasses of water.

April 16.—(U.): Slight albumin and bile.

(B.): Rump steak; French fried potatoes; coffee and cream; butter

(L.): Table d'hote dinner.

(D.): Hamburg steak; whole wheat mush dextrosed and cream; milk; custard.

April 17.—(U.): Almost normal; slight bile.

(B.): Hamburg steak; coffee; water; whole wheat mush dextrosed and milk; cheese.

(L.): Hamburg steak; ham; rye and wheat cakes; nuts; dates; water.

(D.): Hamburg steak; rye and wheat cake; dates; water; milk; cheese.

April 18.—(U.): Some casts; slight albumin; bile.

(B.): Ham; baked potato; eggs; coffee and cream.

(L.): Steamed soft clams and juice; lemon; water; dates; whole wheat mush dextrosed and milk.

(D.): Hamburg steak; cold clams; butter; dates; water; lemon; whole wheat mush dextrosed and milk.

April 19.—(U.): Casts, abundant; suggestion of albumin.

(B.): Rump steak; coffee and milk; dates; lemon; whole wheat mush dextrosed and milk.

(L.): Soft clams steamed, with juice; baked potato; biscuit beef; mince pie; water.

(D.): Eggs; biscuit beef; wheat cake; ginger-bread wheat cake; milk; water; lemon; mince pie.

April 20.—(U.): Slight albumin; bile; protoplasmic catarrh.

(B.): Boiled eggs; baked potato; coffee and milk; mince pie; orange; dates.

(L.): Hot corned beef; English breakfast tea; cheese; whole wheat mush dextrosed and cream; mince pie.

(D.): Biscuit corned beef; English breakfast tea; cheese; whole wheat mush dextrosed and milk; ginger-bread (whole wheat flour); dates.

April 21.—(U.): Casts; filamentous and protoplasmic catarrh, abundant; fatty epithelia.

(B.): Corned beef chopped in Enterprise chopper and biscuited; wheat cakes; coffee and milk; whole wheat mush dextrosed and milk.

(L.): Corned beef chopped and biscuited; eggs; baked potato; English breakfast tea and milk; mince pie.

(D.): Steamed soft clams and quahaugs and broth; milk; apple sauce; water, distilled.

April 22.—True and false casts; filamentous and protoplasmic catarrh—all slight.

(B.): Biscuit ham; coffee; milk; potato, baked; cold soft clams.

(L.): Boiled ham; baked potato; eggs; water; lemon.

(D.): Chopped beef; mince pie; water; whole wheat mush dextrosed and milk.

April 23.—(U.): Casts, true and false; filamentous catarrh, abundant: slight albumin and bile.

(B.): Chopped beef; coffee and milk; baked potato; boiled eggs.

(L.): Soft clams, steamed, and juice; water; mince pie; whole wheat mush dextrosed and milk; cheese.

(D.): Chopped cowey beef; water; milk; dates; whole wheat mush dextrosed and milk.

April 24.—(U.): Slight albumin; bile.

(B.): Chopped beef; eggs; coffee; baked potato; milk.

(L.): Chopped beef; English breakfast tea and milk; whole wheat mush dextrosed and milk; nuts; raisins.

(D.): Eggs; English breakfast tea and milk; whole wheat mush dextrosed and milk; milk to drink.

April 25.—(U.): Slight albumin; bile; false casts; filamentous catarrh. Cowey beef questioned.

(B.): Sausage; ham; baked potato; coffee and milk.

(L.): Chopped cowey beef; baked potato; eggs; mince pie; English breakfast tea and milk.

(D.): Hamburg steak; water; milk; cheese; whole wheat mush dextrosed and cream.

April 26.—(U.): Slight albumin; bile; true and false casts; filamentous catarrh.

(B.): Hamburg steak; baked potato; coffee; pickles; whole wheat mush dextrosed and cream.

(L.): Hamburg steak; English breakfast tea and cream; cheese; whole wheat mush dextrosed and cream.

(D.): Cold beef tongue; pickles; wheat rusk cakes; lemon; water; milk; mince pie.

April 27.—(U.): Slight albumin; true and false casts; still approaching normality.

(B.): Cold ham; coffee and cream; baked potato; butter; cream.

(L.): Cold beef tongue; pickles; English breakfast tea and milk; potato; dates; mince pie.

(D.): Hamburg steak; water; milk; dates; mustard; whole wheat mush dextrosed and milk.

April 28.—(U.): Slight albumin; many true and false casts.

(B.): Cold beef tongue; coffee and cream; baked sweet potato; white cheese, curd.

(L.): Hamburg steak; cold ham; wheatose coffee; cheese; whole wheat mush dextrosed and cream; mince pie.

(D.): Cold beef tongue; eggs; water; dates; whole wheat mush dextrosed and milk.

April 29.—(U.): Albumin, slight.

(B.): Cold ham; pickles; eggs; baked potato; coffee.

(L.): Tripe; baked potato; prunes; coffee and milk.

(D.): Hamburg steak; prunes; whole wheat mush dextrosed and cream; water.

April 30.—(U.): Slight albumin; bile; casts, true and false; filamentous catarrh.

(B.): Hamburg steak; pickles; coffee; baked potato; prunes; milk; whole wheat mush dextrosed and cream.

(L.): Hamburg steak; English breakfast tea and milk; mince pie.

(D.): Hamburg steak; dates; water; whole wheat mush dextrosed and milk.

May 1.—(U.): Almost normal.

(B.): Hamburg steak; coffee; baked potato; whole wheat mush dextrosed and milk.

(L.): Oysters, plain roast; English breakfast tea; custard pie; cheese.

(D.): Fried soft clams; water; bread and corn rolls.

May 2.—(U.): False and true casts abundant; slight albumin and bile.

(B.): Rump steak; coffee; French fried potatoes; butter; water.

(L.): Table d'hote dinner, American House, Boston.

(D): Hamburg steak; milk; whole wheat dextrosed and cream; wheat cake pudding.

May 3.—(U.): A few typic kidney casts.

(B.): Hamburg steak; coffee and milk; baked potato; mince pie.

(L.): Hamburg steak: English breakfast tea and milk; baked bread and date pudding.

(D.): Hamburg steak; baked potato; milk; date pudding; whole wheat mush dextrosed and cream.

May 4.—(U.): Abundant casts, true and false; protoplasmic catarrh; sllght albumin and bile.

(B.): Beef tongue; coffee; baked potato; whole wheat mush dextrosed and cream.

(L.): Hamburg steak; cold ham; baked potato; English breakfast tea and milk; date puddng; cheese.

(D.): Cold beef tongue; milk; water; whole wheat mush dextrosed and cream; dates and raisins.

May 5.—(U.): Slight albumin and bile; very slight true and false casts.

(B.): Beef tongue; coffee and milk; cheese; baked potato; whole wheat mush dextrosed and milk.

(L.): Tripe; beef tongue; stewed tomato; water; whole wheat mush dextrosed and milk.

(D.): Broiled and chopped back of beef rump; dates; milk; water; whole wheat mush dextrosed and milk; cheese.

May 6.—(U.): Slight albumin and bile.

(B.): Cold corned beef; pickles; coffee; baked potato.

(L.): Quahaugs (venus mercenaria) and juice; English breakfast tea and milk; tomato with sugar.

(D.): Corned beef hash; water; lemon; pickles; tomato, sugared; dates.

May 7.—(U.): Slight bile; false casts; filamentous catarrh. The sugar did it.

(B.): Eggs; cold corned beef hash; coffee; butter; tomato.

(L.): Roast beef; coffee; cream; French fried potatoes.

(D.): Soup; roast mutton; cheese; cowslips; English turnip; boiled potato; rhubarb pie; water.

May 8.—(U.): Normal to nitric acid.

(B.): Beefsteak; coffee and cream; baked potato; butter.

(L.): Corned beef and cabbage; boiled potato; Boston brown bread; coffee.

(D.): Roast beef; peas; dandelions; water; sage pudding; boquet tea.

May 9.—(U.): Slight bile.

(B.): Oatmeal and cream; chicken and rice; coffee and cream.

(L.): Beefsteak; coffee and cream; French fried potatoes; bread.

(D.): Fried porgies; bread and butter; potato; water; rhubarb pie.

May 10.—(U.): Slight albumin and fatty epithelia.

(B.): Oatmeal; eggs; potato; coffee.

(L.): Beefsteak; French fried potatoes; coffee and cream.

(D.): Sirloin steak; Lyonnaise potato; English breakfast tea and cream; rolls and butter.

May 11.—(U.): Albumin, marked; some bile.

(B.): Hamburg steak; French fried potatoes; water; coffee and cream; bread.

(L.): Cold corned beef; oyster stew; baked potato; coffee and cream.

(D.): Tomato soup; turkey, dark meat; coffee and cream; onions; potato; cranberry sauce; cheese; rhubarb pie; water.

May 12.—(U.): Normal.

(B.): Mutton chops; coffee and cream; rolls; baked potato.

(L.): Hamburg steak; French fried potato; prunes; coffee and cream.

(D.): Steamed soft clams and rice; Boston brown bread; water; whole wheat dextrosed and cream.

May 13.—(U.): Normal.

(B.): Hamburg steak; Boston brown bread; cheese; mince pie; coffee and cream.

(L.): Mutton stew; mince pie; baked potato; pickles; English breakfast tea and cream.

(D.): Hamburg steak; Boston brown bread; milk; water; dates; whole wheat mush dextrosed and cream.

May 14.—(U.): Slight albumin.

(B.): Hamburg steak; mince pie; Boston brown bread; cheese; coffee and cream.

(L.): Steamed soft clams and juice; Boston brown bread; milk; butter; lemon; mince pie; water.

(D.): Hamburg steak; pickles; whole wheat mush dextrosed and milk and cream; mince pie; cheese; water;.

May 15.—(U.): Very slight albumin; true and false casts; filamentous catarrh.

(B.): Mutton stew; coffee and cream; whole wheat dextrosed and cream; mince pie.

(L.): Hamburg steak; Boston brown bread; English breakfast tea; baked potato; dates; water.

(D.): Steamed soft clams; eggs; water; whole wheat dextrosed and cream.

May 16.—(U.): Slight albumin; casts; filamentous catarrh.

(B.): Hamburg steak; eggs; baked potato; coffee and cream; mince pie.

(L.): Fried soft clams; coffee and cream; boiled potato.

(D.): Hamburg steak; pickles; milk; date pudding.

May 17.—(U.): Slight albumin, otherwise normal.

(B.): Cold ham; coffee and cream; whole wheat mush dextrosed and cream; water.

(L.): Hamburg steak; coffee; English breakfast tea; whole wheat mush dextrosed and cream.

(D.): Steamed soft clams and juice; ginger-bread; water; Hamburg steak; English breakfast tea; date pudding.

May 18.—(U.): Slight albumin.

(B.): Hamburg steak; baked potato; coffee and cream; whole wheat mush dextrosed and cream.

(L.): Hamburg steak; ham; English breakfast tea; ginger-bread; date pudding; water.

(D.): Hamburg steak; whole wheat mush dextrosed and cream; milk; ginger-bread.

May 19.—(U.): Slight filamentous and protoplasmic catarrh; very slight albumin.

(B.): Cold beef tongue; coffee and milk; baked potato; white of egg; pickles; baked potato; butter; whole wheat mush dextrosed and milk.

(L.): Cold ham; eggs; English breakfast tea; date pudding and cream; whole wheat mush dextrosed and cream.

(D.): Hamburg steak; milk; water; lemon; mustard; date pudding; whole wheat mush dextrosed and milk.

May 20.—(U.): Albumin; casts, true and false; fatty epithelia.

(B.): Beef tongue, cold; coffee and cream; baked potato; pickles.

(L.): Hamburg steak; butter; English breakfast tea; milk; dates; nut pudding, made of whole wheat, dextrosed.

May 21.—(U.): Albumin.

(B.): Hamburg steak; coffee and cream; baked potato; pickles; whole wheat mush dextrosed and cream.

(L.): Cold ham; potato; English breakfast tea and milk; whole wheat mush dextrosed and milk; water.

(D.): Cold ham; eggs; water; milk; whole wheat dextrosed and date pudding.

May 22.—(U.): Slight albumin; few casts; fatty epithelia.

(B.): Cold ham; eggs; baked potato; coffee and cream; whole wheat mush dextrosed and cream.

(L.): Soft clams steamed and juice; coffee and cream; whole wheat mush dextrosed and cream.

(D.): Hamburg steak; clam juice; milk; water; dates.

May 23.—True and false casts; filamentous catarrh; slight albumin.

(B.): Hamburg steak; coffee and milk; whole wheat mush dextrosed and milk.

(L.): Hamburg steak; date and whole wheat dextrosed pudding; Oolong tea and milk; baked potato.

(D.): Ham hash; Hamburg steak; egg; milk; water; lemon; date and whole wheat dextrosed pudding.

May 24.—(U.): Normal.

(B.): Steamed soft clams and juice; Hamburg steak; baked potato; coffee and milk; radishes; whole wheat mush dextrosed and butter and milk; white of egg.

(L.): Hamburg steak; English breakfast tea and milk; date and whole wheat dextrosed pudding.

(D.): Eggs; steamed soft clams and juice; cake; English breakfast tea; date and whole wheat dextrosed pudding.

May 25.—(U.): Albumin; free oil.

(B.): Beef tongue; coffee and cream; baked potato.

(L.): Hamburg steak; asparagus; apple sauce; baked potato; coffee and milk; water.

(D.): Tripe; beef tongue; apple sauce; whole wheat mush dextrosed and cream; water.

May 26.—(U.): Very slight albumin; fatty epithelia; filamentous catarrh; no free oil.

(B.): Cold ham; eggs; radishes; coffee and cream; apple sauce; whole wheat mush dextrosed and cream.

(L.): Hamburg steak (pan broiled); sweet potato; baking powder whole wheat cake; milk; pickles.

(D.): Cold tongue; pickles; cold English breakfast tea; whole wheat ginger-bread; whole wheat mush dextrosed and cream.

May 27.—(U.): Slight albumin.

(B.): Hamburg steak; baked potato; pickles; coffee with cream and sugar; whole wheat mush dextrosed and cream; cheese.

(L.): Hamburg steak; English breakfast tea and milk; baked potato; whole wheat mush dextrosed and milk.

(D.): Tripe; apple sauce; water; milk; date and whole wheat dextrosed pudding.

May 28.—(U.): Slight albumin; fatty epithelia; false casts.

(B.): Cold beef tongue; pickles; baked potato; coffee and milk; whole wheat mush dextrosed and cream; white of egg.

(L.): Dried beef and yolk of egg; English breakfast tea; baked potato; butter; whole wheat dextrosed and date pudding.

(D.): Cold pressed boiled ham; English breakfast tea and milk; apple sauce; whole wheat ginger-bread, whole wheat mush dextrosed and milk.

May 29.—(U.): Almost normal.

(B.): Cold ham; baked potato; eggs; coffee and cream; water; lemon; whole wheat mush dextrosed and cream.

(L.): Tomato soup; beefsteak: coffee; water; rhubarb pie.

(D.): Roast beef; baked potato; water; stewed whole wheat, unground, butter.

May 30.—(U.): Slight albumin.

(B.): Broiled tripe in crumbs; stewed unground whole wheat; coffee; entire wheat bread rolls.

(L.): Fresh soft clams; bread; water; butter.

(D.): Oysters, plain roast; oyster crackers; butter; water.

May 31.—Some bile.

(B.): Fried salmon; French fried potatoes; coffee and cream; water; lemon.

(L. and D.): Mutton stew; coffee and cream; milk; custard; whole wheat dextrosed cakes.

June 1.—(U.): Lots of true and false casts; fatty epithelia; filamentous and protoplasmic catarrh.

(B.): Lettuce, plain; Hamburg steak; coffee; baked potato.

(L.): Hamburg steak; whole wheat mush dextrosed and milk; English breakfast tea.

(D.): Steamed quahaugs and juice; whole wheat dextrosed and date pudding; whole wheat mush dextrosed and cream; water.

June 2.—(U.): Same as June 1, only very much less so.

(B.): Hamburg steak; coffee; baked potato; milk; apple sauce.

(L.): Hamburg steak; pickles; coffee; water; cheese; apple sauce; date pudding; whole wheat mush dextrosed and milk.

(D.): Quahaugs, steamed and juice; water; cheese; whole wheat mush dextrosed and milk.

June 3.—(U.): Bile, slight; false casts and filamentous catarrh.

(B): Hamburg steak; coffee; baked potato; milk; apple sauce; whole wheat mush dextrosed and milk.

(L.): Hamburg steak; eggs; baked potato; milk; coffee; whole wheat mush dextrosed and milk.

(D.): Hamburg steak; chowchow; butter; cheese; baked potato; mince pie; water.

June 4.—(U.): Some true and false casts.

(B.): Hamburg steak; chowchow; coffee and cream; doughnut; whole wheat mush dextrosed and cream.

(L.): Hamburg steak; coffee; water; chowchow; mince pie; whole wheat mush dextrosed and milk.

(D.): Tripe fried in crumbs; butter; chowchow; mince pie; milk; water; cheese.

June 5.—(U.): Slight albumin; many casts, both kinds; filamentous catarrh.

(B.): Hamburg steak; baked potato; butter; coffee and cream; potato sauce.

(L.): Hamburg steak; chowchow; baked potato; cheese; mince pie; English breakfast tea.

(D.): Clam chowder; dates; water.

June 6.—(U.): True and false casts; filamentous catarrh, not abundant.

(B.): Clam chowder; tomato; coffee and cream; entire wheat brown bread.

(L.): Boiled corned pork, shoulder; tea; baked potato; tomato sauce; cheese; mince pie; milk.

(D.): Hamburg steak; chowchow; clam chowder; mince pie; water.

June 7.—(U.): Almost perfect.

(B.): Tripe; coffee; tomato; whole wheat mush dextrosed and cream; white of egg (an intercollation).

(L.): Clam chowder; water; lemon; Hamburg steak; custard; apple sauce.

(D.): Cold beef tongue; custard; apple pie; orinda coffee and cream; sugarless lemonade.

June 8.—(U.): Some true and false casts; slight albumin.

(B.): Cold ham; coffee; baked potato; apple sauce; whole wheat mush dextrosed and cream.

(L.): Clam chowder; coffee; tomato sauce; apple pie.

(D.): Cold beef tongue; tomato sauce; custard; blueberry pie; lemon; water.

June 9.—(U.): Very slight albumin; one kidney cast.

(B.): Clam chowder; Hamburg steak; coffee and cream; baked potato; tomato sauce; crackers.

(L.): Hamburg steak; coffee and milk; custard; baked potato; water; lemon; apple sauce.

(D.): Cold tongue reheated; chowchow; whole wheat mush dextrosed and cream; water; lemon.

June 10.—(U.): Albumin, very slight; some true and false casts; one fatty epithelia; filamentous catarrh.

(B.): Biscuit Hamburg steak; apple sauce; chowchow; cold ham; coffee and cream; ginger-bread of whole wheat flour.

(L.): Tripe; tomato sauce; prune pie; water; English breakfast tea; cheese.

(D.): Clam chowder; milk; ginger-bread of whole wheat flour.

June 11.—(U.): Slight albumin and very slight filamentous catarrh.

(B.): Clam chowder; Hamburger steak; coffee and cream; whole wheat mush dextrosed and cream.

(L.): Massachusetts Medical Society, annual dinner, full swing, ten hundred plates.

(D.): Beefsteak; potato boiled; water; cake.

June 12.—(U.): Slight albumin.

(B.): Oatmeal mush; coffee; biscuit; potato; egg; beefsteak; bread.

(L.): Macaroni soup; veal with vegetables; mince pie; poor coffee.

(D.): Shredded codfish; potato; English breakfast tea and cream; bread and butter.

June 13.—(U.): Slight albumin.

(B.): Rump steak; French fried potatoes; coffee and cream; bread and butter.

(L.): Fried soft clams; bread and butter; water.

(D.): Fried tautog; baked potato; water; lemon; whole wheat dextrosed and date pudding.

June 14.—Slight albumin; filamentous catarrh.

(B.): Hamburg steak; apple sauce; coffee; water; banana.

(L.): Hamburg steak; English breakfast tea and milk; rhubarb sauce; tomato sauce; banana; whole wheat mush dextrosed and milk.

(D.): Fish chowder; beef tongue; tomato; water; milk.

June 15.—(U.): Almost normal.

(B.): Beefsteak; coffee; potato; whole wheat mush dextrosed and milk.

(L.): Fish chowder; cold tongue; tomato; rhubarb; water.

(D.): Cold tongue; grape jelly; water; milk; cheese; whole wheat mush dextrosed and cream.

June 16.—(U.): Almost normal.

(B.): Hamburg steak; coffee and baked potato; whole wheat mush dextrosed and cream.

(L.): Hamburg steak; baked potato; rhubarb; fish chowder; coffee and milk; water.

(D.): Cold tongue; rhubarb; chowchow; whole wheat ginger-bread; water; milk; whole wheat mush dextrosed and cream.

June 17.—(U.): Almost perfect.

(B.): Hamburg steak; coffee; rhubarb; whole wheat ginger-bread; whole wheat mush dextrosed and cream.

(L.): Cold tongue; Hamburg steak; English breakfast tea; cheese; whole wheat mush dextrosed and cream.

(D.): Cold tongue; whole wheat cakes; apple sauce; cheese; whole wheat mush dextrosed and cream; English breakfast tea.

June 18.—(U.): Slight number of true and false casts; filamentous catarrh.

(B.): Cold ham; beef tongue hash; coffee; distilled water; whole wheat mush dextrosed and milk; lemon.

(L.): Cold ham; baked potato; peach sauce; apple sauce; water; whole wheat mush dextrosed and cream.

(D.): Cold ham; cold beef tongue; chowchow; water; whole wheat mush dextrosed and milk.

June 19.—(U.): Albumin; free oil (foreign).

(B.): Hamburg steak; chowchow; cold ham; coffee and milk; whole wheat mush dextrosed and milk.

(L.): Fried eggs; bacon; baked potato; distilled water; whole wheat mush dextrosed and cream.

(D.): Boiled codfish and fixings; cheese; whole wheat mush dextrosed and cream; water.

June 20.—(U.): Albumin; one cast; amyloid; filamentous catarrh; cystin.

(B.): Boiled codfish; coffee and milk; baked potato; whole wheat mush dextrosed and cream.

(L. and D.): Beefsteak; peach sauce; water; lemon; dates; whole wheat mush dextrosed and milk.

June 21.—(U.): Slight albumin.

(B.): Cold ham; beefsteak; coffee; whole wheat mush dextrosed and milk.

(L.): Beefsteak (cowey); baked potato; coffee; whole wheat dextrosed pudding.

(D.): Mutton stew; entire wheat flour cakes; whole wheat dextrosed and date pudding; cheese; water.

June 22.—(U.): Albumin; casts, true and false; amyloid; cystin.

(B.): Steamed quahaugs and juice; baked potato; water; coffee and milk; date pudding of whole wheat dextrosed.

(L.): Mutton stew; baked potato; water; coffee and milk; date pudding of whole wheat dextrosed.

(D.): Whole wheat mush dextrosed and cream; water; cheese; lemon.

June 23.—(U.): Albumin; casts, true and false; fatty epithelia.

(B.): Beefsteak; mutton stew; coffee and cream; date pudding of whole wheat dextrosed.

(L.): Mutton stew; quahaug broth; English breakfast tea and cream; whole wheat mush dextrosed and cream; cheese.

(D.): Hamburg steak; Lyonnaise potato; bread and butter; water.

June 24.—(U.): Slight albumin.

(B.): Hamburg steak; coffee; beef tongue sandwich; Lyonnaise potato.

(L.): Consomme soup; roast mutton; vegetables; coffee; apple pie.

(D.): Yale dinner to the class of 1852.

June 25.—(U.): Almost normal.

(B.): Hamburg steak; corned beef hash; fried potatoes; coffee and cream.

(L. and D.): Yale commencement dinner, one thousand four hundred present.

Intermediate.—Sherbet ice and one cake at president's reception.

June 26.—(U.): Normal at P. M., twenty-four hours later much albumin.

(B.): Hamburg steak; potato salad; French fried potatoes; coffee and cream; bread and butter; water.

(L.): Beefsteak; Hubbard squash; green peas; cherries and cherry pie; milk; water; entire wheat bread.

(D.): Hamburg steak; Lyonnaise potato; water.

June 27.—(U.): Some albumin.

(B.): Hamburg steak; Lyonnaise potato; coffee and cream; bread and butter.

(L. and D.): Hamburg steak; Lyonnaise potato; water; boiled potato.

June 28.—(U.): Slight albumin.

(B.): Hamburg steak; baked potato; coffee and cream; bread and butter.

(L.): Oyster stew; rhubarb pie; water.

(D.): Mutton stew; modern Boston brown bread; chowchow; water; coffee and cream.

[TO BE CONTINUED.]

ORIGINAL ABSTRACTS

MEDICINE.

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STUDY OF MANUBRIAL DULLNESS.

H. B. WHITNEY (*American Medicine,* Volume V, Number XVII) presents four cases, two with autopsy notes, which showed dullness under the manubrium and to the left thereof, and points out that in such cases after considering aneurysm and mediastinal new growths, one must consider bronchial adenopathy due to dust inhalation as a possible cause. Such adenopathy may give rise to considerable difficulty in differential diagnosis. In one of his cases there were symptoms of paralysis of the recurrent laryngeal nerve and of tracheal stenosis, while in two there was compression of the left bronchus.

In the diagnosis, a history of chronic cough and expectoration in a person whose occupation involves the constant inhalation of dust, and, on examination, a local or general bronchitis, are suggestive, especially in the absence of tracheal tug or souffles on one hand, and of signs of malignant disease, such as cachexia and enlarged cervical lymph glands, on the other. Further, the dullness of aneurysm (in the early stages when diagnosis is difficult) is oftener to the right of the median line; is usually small, and sharply defined; while in adenopathy the dullness is oftener to the left; is often larger, due to consolidation of the surrounding lung tissue, and passes a little more gradually into lung resonance.

In many cases of pneumonoconiosis and bronchial adenopathy, signs of tuberculous infection are present.

SURGERY.

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AND
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RESULTS OF ONE THOUSAND OPERATIONS FOR THE RADICAL CURE OF INGUINAL AND FEMORAL HERNIA, PERFORMED BETWEEN 1891 AND 1902.

The operation for the radical cure of hernia has become so commonly accepted that the profession has almost forgotten to investigate the results further than to say that they are very good. William B. Coley, M. D., of New York (*Annals of Surgery*), has recently reported the results of operation in a thousand cases of inguinal and femoral hernia. There were nine hundred thirty-seven inguinal and sixty-six femoral. Five hundred thirty-eight were of varying age from four to fourteen. Seven hundred of the whole list were under twenty years, the others from twenty to seventy. The results would seem to show that "the operation in children is really more difficult than in adults, and needs not only the best method but the greatest care in technique to give as good results as in the adult." Young people give better results because the muscles are not atrophied.

The methods employed in femoral were the Bassini in sixteen, and the purse-string in fifty, the latter without a single relapse. There were one hundred eighty-one inguinal hernias in the female without a death or relapse. Bassini's method, as for the male, was employed. In sixty-six femoral hernias there was no mortality and but one failure or relapse. Forty-six were followed, all remaining well from two to ten years after operation. Bassini's method was employed in nearly all cases of inguinal hernia. There were ten relapses, or about one per cent. Of the twenty operations performed by other methods there were six relapses. These cases were operated upon by other methods because the Bassini could not well be employed and were failures, not because of the method employed but because of the kind of hernia.

The percentage of relapses is largest in the first six months, then rapidly decreases, proving the rule that a patient well one year after the operation may expect to remain well, while one well two years after operation may expect to remain cured.

A study of the cause of relapse is taken up by cases. The first, due to faulty technique, prolonged operation, silk sutures, and bad suppuration, relapsed in three months. The second occurred from weakened muscles after prolonged sickness. In the third, occupation required heavy lifting, and relapse occurred one year later. The fourth had a prolonged suppuration. The fifth suffered a kick in the groin. The seventh had a poorly developed internal oblique muscle.

The writer believes that the employment of a single stitch above the cord in the internal oblique, strengthens the weak point in the operation and prevents a relapse. He favors the use of kangaroo tendon for suture material, dresses the wound with iodoform and plain gauze and requires the patient to remain in bed from two to three weeks. Non-absorbable sutures may cause annoyance, and their extrusion weakens the canal, thus predisposing to relapse. The infection formerly attributed to imperfect sterilization of sutures, probably came from the hands of the operator or assistants.

The comparison of suppurative cases under the same techique with and without rubber gloves shows a reduction from nine and six-tenths per cent to one and seven-tenths per cent in favor of the gloves.

Bruising the tissues or allowing them to become infiltrated with blood, or difficult and prolonged operation, interferes with healing. Stitch abscesses do not necessarily weaken the canal. The author does not mention the use of the silver wire subepithelial suture which we find has almost entirely excluded skin infection.

The Indications for Operation.—Children under four years should not be operated upon unless there are complications, as two-thirds of them may be cured by wearing a truss. After four years, when the truss has not cured or cannot be worn because of complications (hydrocele, irreducible hernia), the case should be operated upon. All adults under fifty, unless there are strong contraindications, should be operated. From fifty to seventy, operation may be advised in patients otherwise in good health, when a truss cannot be comfortably worn.

Contraindications.—Serious organic disease of the heart, lungs and kidneys, and very large irreducible hernia in stout persons, especially when the sac contains both omentum and intestine. These cases have a large risk with a small percentage of cures. There is danger of inflamed omentum, formation of abscess which may rupture internally, and development of intestinal obstruction. The only other cause of death mentioned is ether pneumonia. The risk of operation for hernia at the present time with skilled hands is practically nil and certainly much less than the risks of strangulation even when a well-fitting truss is worn.

Several special varieties of hernia are discussed, but they do not change the general results. The danger of strangulated hernia is increased when resection becomes necessary and in late operation. The prospect of a radical cure is good in these cases. C. G. D.

GYNECOLOGY.

BY REUBEN PETERSON, A. B., M. D., ANN ARBOR, MICHIGAN.

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THE CONNECTION BETWEEN THE FEMALE BREASTS AND GENITALS.

TEMESVARY (*Journal of Obstetrics and Gynecology*, June, 1903), in an exceedingly interesting article with the above title, says that while anatomically and developmentally the breast is an appendage of the skin, it is still correct to assume that it is part of the genital organs. He divides the experiences which prove the connection between the breasts and the genital organs into two groups, according as they show the influence of the genital organs on the breasts and milk secretions and vice versa.

As showing the influence of beginning menstruation on the evolution of the breasts, the author has collected seventy cases from the literature, in nearly all of which the early manifestations of puberty showed corresponding alterations of the mammæ. As another evidence of the connection, it is only necessary to consider the enlarged, sensitive and painful breasts which sometimes accompany menstruation. Out of two hundred cases of vicarious menstruation collected by Puech, the periodic hemorrhage is from the breasts, sometimes from one and sometimes from both. Cases have also been reported where coitus had caused contractions in the musculature of the nipple and its areola, and even the discharge of milk from the breasts. On the death of the fetus during pregnancy without its expulsion from the uterus, the breasts become still more full and hard and real milk is secreted instead of colostrum. This same phenomenon may be noted in cases of extrauterine pregnancy. If lactation still continues during menstruation, the quantity of the milk is considerably diminished and in some cases, even the quality of the milk is changed. Freund observed colostrum discharged from the breasts in twenty-five out of forty cases of myomata. This same thing is also noted in affections of the adnexa. Diseases and conditions which cause atrophy of the sexual organs such as syphilis, tuberculosis, diabetes mellitus, and Basedow's disease cause similar alterations in the breasts. Cases of breast hypertrophy occur either at puberty or during the first pregnancy. Uterine troubles may also be etiologic factors in the production of this condition. After amputation of the cervix, both hypertrophied breasts have been seen to return to their original size. Lücke first called attention to the fact that new growths of the breasts are very apt to occur during pregnancy. Recently it has been pointed out by Deapson that in cases of inoperable or recurrent cancers of the breast, where extirpation of the ovary is employed, associated with simultaneous administration of thyroidin, the mammary disease is either considerably improved or even healed completely. In seventy-one cases collected by Boyd, the cancerous disease was healed in seventeen cases by this treatment. In twenty-four cases there was slight improvement.

The writer then discusses the second group of cases, where the influence of the mammary gland is exerted upon the genitals. A stimulation of the nipple in some women gives arise to erection of the clitoris, contraction in the musculature of the pelvic floor, and occasionally even to ejaculations. The sucking of the nipples is apt to cause uterine contractions in pregnant women, sometimes even causing interruption of gestation. Scanzoni has even cured a case of persistent amenorrhea by applying to the nipple twice or three times a day a cupping apparatus. Others have been successful by the same process. It is a well-known fact that, after parturition and during childbed, the placing of the infant to the breast causes uterine contractions and after-pains. In two cases of atonic bleeding Rigby succeeded in checking the hemorrhage by this means. The writer made some observations as to the effect of suckling on uterine contractions. In one hundred and thirty-one woman within the first eight days of childbed, the height of the womb in nonsuckling women (measured from the symphysis to the fundus uteri) decreased by four and nine-tenths centimeters and in width by three and forty-two hundredths centimeters. In suckling women, the diminution was much greater.

Frommel, Müller and others, have called attention to the effects of overprolonged lactation, ending in a hyperinvolution of the womb, the so-called "lactation atrophy." Howitz has observed that lactation has also a favorable influence on myomata of the uterus, attributable to uterine contractions excited by the suckling.

The writer then considers the probable causes of this undeniable connection between the breasts and the female genitals. The connection may be reflex, that is, through the medium of the nerves; or it may be produced by the circulation in the breasts or reversely. Finally, it is possible that a certain material exists which produces the milk secretion and which under certain circumstances is retained in the blood and, accumulating there, reaches the breasts by way of the circulation and produces the milk.

Certain experiments on animals where the spinal cord has been cut shows that the latter cannot play the role of the connecting path between the animals' genital organs and the lacteal gland. In other experiments, the breasts were entirely freed from the influence of nerves. In spite of this, parturition took place in an entirely undisturbed manner and lactation and milk production were not interfered with. Ribbert cut off the mammary gland of a young rabbit together with the skin and sutured it through wounds in the skin of the ears, where the gland became firmly attached. After the birth of two young ones later on, the transplanted breast secreted milk five months after the operation. This experiment shows conclusively that the blood-vessels do not form an indispensable path between the female breasts and genitals.

The writer is of the opinion that the stimuli from the genitals to the breasts are produced by a certain substance which is the product of the internal secretion of the ovaries. The blood circulation, the quantity of the blood flowing to the breasts, while influenced by the nervous system, plays only a secondary role. In the reverse direction, the stimulus is chiefly produced by the nervous system and the blood circulation plays here a secondary part in the form of reflex hyperemia.

PEDIATRICS.

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INTUSSUSCEPTION.

HUBER and Erdman (*Archives of Pediatrics*, July, 1902), after reporting a case, give a review of the salient features of the condition. The principal symptoms are sudden abdominal pain, vomiting, the passage—with much straining at stool—of material containing mucus, blood, and scanty feces, and the presence of a tumor, though one or more of these symptoms may be missing. Of the three varieties, the enteric is the rarest; and here no tumor can be distinguished as a rule. The colic form is less common than the ileocecal, which is the type most commonly seen. The vomiting, which usually sets in early, is persistent, but fecal vomiting is rare in infancy. The character of the rectal discharge is important, and the presence of blood or bloody mucus resembling currant jelly is always suspicious, in the absence of a history of polyps or dysentery. Where a tumor cannot be felt by abdominal or rectal examination alone, conjoined manipulation may reveal its presence.

Two methods of treatment are advocated: Injection and operative interference. At present the tendency is to limit the employment of injections to the early stages, twelve to twenty-four hours from onset. They should be given without an anesthetic. The baby is placed on its belly, and with hips elevated, warm water is then poured into the rectum without using too much pressure, the water to be held in the bowel by pressure on the anus from without. If this method is not successful the authors consider that surgical intervention should be resorted to at once. Erdman believes that enemata should not be used at all in cases of over twelve hours' standing. The operation is not difficult, excision of the gut being rarely required except in long standing cases. The proximal end of the gut should never be pulled in attempting the reduction, as this procedure is often productive of tears of the intestine. Reduction is to be produced by pressure upon the apex of the mass through the gut at the distal end. Should adhesions between entering and receiving the gut prevent reduction they may usually be broken down by the passing of a blunt instrument between the two portions.

LARYNGOLOGY.

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LOCAL ANESTHESIA IN SURGERY OF THE UPPER AIR PASSAGES.

JAMES A. BODINE (*Laryngoscope*, April, 1903) calls attention to the possibilities and limitations of cocain. The psychic element and the idiosyncrasies of the patient are mentioned. The statement is made that the actual vasomotor paralysis occurs in proportion to the patient's nervous susceptibility. The author advocates weak solutions hypodermatically, one-quarter of one per cent down to one one-hundredth of one per cent. The injection should be made into the skin or mucous membrane, not beneath it. Fresh solutions should be made for each operation, and are more effective if warmed. Anesthesia resulting from application to the mucous membrane is greatly inferior to infiltration. Cocain acts by paralyzing the sensory nerves. Experience indicates that one grain of cocain is a safe dose for absorption for an adult. Morphin is a reliable antidote for cocain poisoning. Even in profound morphin narcosis, cocain is the safest and quickest antidote. They antidote each other. In connection with surgery of the larynx, Crile states that extensive experimentation justifies the statement that cardiac and respiratory inhibition is impossible if the area be cocainized.

REMARKS ON GENERAL ANESTHESIA IN OPERATIONS INVOLVING THE UPPER AIR PASSAGES.

THOMAS L. BENNETT (*Laryngoscope*, April, 1903) says that for operations which may be completed in about one-half minute and in which immediate consciousness is not objectionable, nitrous oxide is reasonably satisfactory and very safe. For cases requiring longer anesthesia ether or chloroform should be used.

In closing he calls attention to the method suggested by Crile, which is as follows: The patient being fully anesthetized in the usual manner, rather heavy walled rubber tubes of as large a diameter as possible are passed through the nostrils to a point in the pharynx opposite the top of the larynx, whereupon respiration will take place through the tubes. The mouth is now opened, the tongue pulled well forward and the space thus formed at the back of the pharynx is packed tightly with gauze, so as to completely shut off communication between the mouth, nose and larynx. The free portions of the tubes are carried up over the forehead, the ends covered with gauze, upon which ether or chloroform may be dropped to continue the narcosis. In the cases wherein I have availed myself of this plan the results have been satisfactory in every particular. The protection of the lower air passages has been absolute, the respiration has been normal, and narcosis perfect. This method should be of service in antrum and frontal sinus cases. It can be carried out with one tube only if one of large caliber can be passed, thus leaving the other nostril free for exploration, which is desirable in some of these cases.

DERMATOLOGY.

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THE BACILLUS OF LISLE-JULLIEN IN SYPHILIS.

Doctor L. B. Sovinski (*Russ. Jour. of Cut. and Ven. Dis.*, 1902, Volume IV, page 33), in a paper on "The Bacillus of Lisle-Jullien in Syphilis," and again in a paper on the "Bacteriologic Investigation of the Blood of Syphilitic Patients," which was published in the same journal (Volume IV, page 592), expresses the opinion that syphilis is not a bacterial disease. He is led to this opinion by the results of his principal experiments: (1) Examination of the Spanish fly plaster—of the kind used by Lisle and Jullien—to obtain the plasma of syphilitic patients, which resulted in the discovery—on the plaster itself—of the same rod-like bacterium found by Lisle and Jullien in the plasma and venous blood of syphilitics; (2) Sovinski examined the blood of untreated syphilitic patients in various stages of the disease and found it sterile upon all media.

THE SPECIFIC ORGANISM OF SYPHILIS.

Doctor G. Pini (*Giornale Italiano della malattie veneree e della pelle,* Volume XLIII, 1902) gives a report of his "Bacteriologic Researches in Secondary Syphilis." His experiments were originally conducted along lines similar to those of Lisle and Jullien but his results were negative. A few distinct bacilli, five to six microns long, and having Brownonian movement, which ceased in about two hours, were found in suspended drops of plasma. It is impossible to discover bacilli in the dried plasma. Cultures of the bacillus in bouillon were employed in attempts to inoculate guinea pigs, rabbits, and dogs without success. Finally similar experiments were made in the human, both by hypodermic administration and attempts to inoculate an abrasion with the microorganism, but with negative results. Doctor Pini concludes that the specific organism of syphilis is yet to be discovered.

THERAPEUTICS.

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DISEASES OF THE GASTROINTESTINAL TRACT.

S. COHN (*The Journal of Advanced Therapeutics,* May 1, 1903) introduces this subject by calling attention to the great advances that have been made in treating diseases of the intestinal tract during the past twenty-five years. The greatest advance, he says, is associated with the discovery of the value of an examination of the stomach contents—particularly after the test breakfast.

By means of this procedure treatment is now directed in accordance with facts connected with the individual, and not, as formerly, by the exhibition of remedies at random.

As a result treatment by drugs has been almost entirely superseded by dietetic and physical treatment, with the former much the more important.

Doctor Cohn takes up the subject of diet and first considers it in respect to health. He calls attention to the fact that foodstuffs may be divided into the three principal groups, proteids, carbohydrates, and fats, and that the main functions of food are to repair wear and tear of the tissues, and to serve as a source of potential energy which can be converted into heat and work.

"The potential energy is expressed in terms of calories. A calorie is the quantity of heat necessary to raise one kilogram of water one degree Celsius. As it has been found that one kilogram of proteids corresponds to four and one-tenth calories, one kilogram of fats to nine and three-tenths calories, and one kilogram of carbohydrates to four and one-tenth calories, we will be able to express all the food taken in this way by the amount of calories."

As to the amount of food necessary for the daily needs of the body, Doctor Cohn says the average from the figures of many experimenters gives for a healthy man of middle weight one hundred and twenty-five grams of proteids, about sixty grams of fats, and about five hundred grams of carbohydrates. These amounts can be expressed in terms of potential energy by multiplying each by its unit of calories. These amounts, as already said, are for a healthy individual. As proteids are derived chiefly from the animal kingdom and carbohydrates from the vegetable kingdom, and as both are needed to sustain the body, it is clear a diet made up of materials from both these kingdoms is the proper one.

In treating diseases of the stomach and intestines use should be made of principles derived from the processes of digestion carried on in health. In the first place, the intestine must be looked upon as a more important digestive organ than the stomach. The digestive work of the stomach is limited to proteids. Its more important function is to carry food to the intestines. The latter is a point of great value in treating chronic diseases of the stomach. "No matter how great the disturbance of the digestive function of the stomach may be, as long as the mechanical power is not impaired, the food will be taken care of."

The question of rest of the stomach is an important one. In acute diseases rest should be advised. But in chronic conditions this measure is decidedly contraindicated. "Too much rest will always favor the progress of atrophy, whereas methodical adaptation to work will always strengthen an organ." The stomach must be trained to do normal work. To gain this point a system must be employed and the work performed by the stomach gradually developed. A scale of foodstuffs is essential.

Of physical therapeutics lavage comes first. The best time to wash out the stomach is in the fasting condition. By doing so the tube is not blocked with food, the presence or absence of undigested food is determined, and no food needed for nourishment is taken away. Contraindications for the use of the tube are hemorrhage, ulcers of the stomach, and aneurysm of the aorta.

Electricity can also be used as a remedial measure. This may be applied externally or internally. If in the former manner the electrodes can be placed one on the abdomen and the other on the back. All currents can be used.

If the internal method is employed treatment should be applied while fasting. The electrode is swallowed by the patient who drinks water afterward so as to protect the walls of the stomach and at the same time to distribute the current. Galvanic or faradic currents can be used.

EDITORIAL COMMENT.

THE ROLE OF RADIUM IN MEDICINE.

THERAPEUTIC experience with radium has demonstrated the practicability of employing the several forms of this product in the treatment of certain diseases. The metal was discovered by Bemont and Curie, who isolated it from pitchblende in 1898. Pitchblende, which is the chief source of radium, contains about one ten-thousandth per cent of the metal, and estimate places the quantity thus far extracted at one pound, which represents the expenditure of an immense amount of money, considering that if the supply of the precious substance were equal to the demand the enormous price of about £15,000 per ounce could be procured therefor.

Medicine is probably one of the most important domains at present open to radium. The special field in which this agency has already proved markedly serviceable is that of malignant disease, although it has been employed to some extent in other conditions and is suggested as a treatment for consumption. It may be utilized in the form of rays, heat and gas. Four kinds of rays have been observed to emanate from the product: those resembling the *x*-rays; others corresponding to the cathode rays; a third variety represented by infinitesimally small atoms of matter; and still another kind, some of which are invisible, although invested with penetrative power sufficient to produce burns. It has been demonstrated by Curie and Laborde that heat is continuously emitted from radium and that one gramme of the substance is capable of supplying one hundred calories per hour. Infinitesimal quantities of gas are represented in the spontaneous and continuous radioactive emanations produced by the metal, but the supply may be greatly increased by consigning the element to water.

The apparatus for employing radium rays is not so cumbrous as that required for an *x*-ray outfit, and its practical application is therefore rendered possible in instances which do not admit of recourse to the latter. However, that the rays of radium are destined to supplant the *x*-rays, Finsen light, or high-frequency and potential currents in the treatment of lupus, superficial carcinoma, and rodent ulcer is still an unsettled question.

Danlos reported a number of cases of lupus successfully treated with radium rays some time ago, and the excellent results obtained by this experimenter have prompted more recent election of the new remedial measure. Macintyre has called attention to several cases of lupus and one of rodent ulcer wherein treatment with radium rays effected apparent cure. Davidson and Gussenbauer have employed the product in the treatment of cancer with remarkable success. Soddy has suggested utilizing the gas generated from radium in the treatment of consumption. The method contemplates accumulating the gas in a reservoir and subjecting the patient to inhalations at stated intervals, the general germicidal properties of radium being depended upon to destroy the tubercle bacilli.

A property that radium rays bears in common with Roentgen rays is that of producing burns. Macintyre has reported the burn of an arm by allowing the rays from a few milligrams of radium to pass through a thin layer of air and another of mica for one hour. The reaction did not occur immediately but the result has not disappeared after more than two months, and the present condition of the wound indicates that some time yet will be required to effect healing. Other experimenters have encountered similar mishaps, one reporting a burn caused by radium enclosed in a bottle which was carried in the vest pocket, the heat penetrating the clothing and severely burning the flesh.

The particular role that radium is destined to play in the treatment of disease is impossible to prognosticate, but that the metal possesses great power for good or evil is evidenced by the calculations of Curie and Rutherford, who declare that there is sufficient energy stored in one grain to raise five hundred tons a mile high.

CONTEMPORARY.

PROGRESS IN SPELLING REFORM.

[AMERICAN MEDICINE.]

We have no sympathy for the *fonetik folks,* nor for the devisers of Volapuk or other expressions of philologic nausea, but we have every desire to rid the language of barbaric illogicalities and follies that have grown with the unconscious development of the past. It is therefore an exceptional pleasure to note the evidence of effected reform shown in the adoption of sensible spelling by the United States Census Office. This fact puts the reform beyond the stage of doubt and discussion, and renders absurd the efforts of the reactionaries to retain outgrown spellings. Publishing houses which control medical periodicals and publish dictionaries devoted to antique orthographies will henceforth find that their "conservatism" and profound interest in "etymology" and "pure English" will no longer avail. In the "Classification of Causes of Death" and in other circulars issued by the Census Office we notice the modern instead of the medieval forms of words. We are gratified that even œdema and œsophagus are forever done away with, and are replaced by edema and esophagus. Hæmorrhage, leukæmia, and the more ridiculous leucæmia, anæmia, gangræne, diarrhœa, septicæmia, æstivo-, anæsthetic, sapræmia, pyæmia, hæmoptysis, gonorrhea, ozæna, goitre, perinæum, and a hundred other solecisms are deleted and replaced by the simpler and better forms. Aneurism is wrongly preferred to aneurysm, and diphtheric should have been given instead of diphtheritic. We are grateful that lach- has not been retained in this tearful part of a word, but are sorry that lacrymal is preferred to lacrimal. And at last we are rid of chorioid and chorioditis, and also of the pepper-and-hyphen box in cooperation. With such great progressive steps it seems strange that the incongruities of some old-time forms of compound words should have been retained. We find retro-uterine, and in the next line periuterine without the absurd hyphen; gastroenteritis, and close by entero-colitis; cardiovascular, and then cerebro-spinal; gastroenteric, and soon broncho-pneumonia. There are no such words as sarco-, broncho-, pseudo-, cerebro-, retro-, entero-, et cetera, and in thousands of such compounds we do not hyphenate. We do not even see the need of any hyphen in beriberi. Noncancerous and nonpuerperal are correctly spelled.

MEDICAL NEWS.

RECIPROCAL MEDICAL REGISTRATION.

The American Confederation of Reciprocating Examining and Licensing Medical Boards, the membership of which comprises the Medical Examining and Licensing Boards of Indiana, Iowa, Kansas, Michigan, Ohio and Wisconsin, has adopted the following basis of reciprocal registration:

(1) That as a prerequisite to reciprocal registration, the applicant therefor shall file in the office of the board of the state of which he is a licentiate such evidence as will enable the said board to certify that he is of good moral and professional character. Such certificate shall be filed with his application for reciprocal registration in another state.

(2) That a certificate of registration showing that an examination has been made by the proper board of any state, on which an average grade of not less than seventy-five per cent was awarded, the holder thereof having been at the time of said examination, the legal possessor of a diploma from a medical college in good standing in the state where reciprocal registration is sought, may be accepted, in lieu of examination, as evidence of qualification. Provided, that in case the scope of the said examination was less than that prescribed by the state in which registration is sought, the applicant may be required to submit to a supplemental examination by the board thereof in such subjects as have not been covered.

(3) That a certificate of registration, or license issued by the proper board of any state, may be accepted as evidence of qualification for reciprocal registration in any other state. Provided, that the holder thereof was, at the time of such registration, the legal possessor of a diploma issued by a medical college in good standing in the state in which reciprocal registration is sought, and that the date thereof was prior to the legal requirement of the examination test in such state.

A PHYSICIAN'S SUDDEN DEATH.

Doctor Isaac Newton Love, of New York City, formerly of Saint Louis, died suddenly aboard the steamer Aurania as it was approaching New York harbor on the 17th instant. The doctor was returning from a trip abroad, and while presiding at a meeting, which had been called at the breakfast table to persent congratulatory resolutions to the captain on the safe arrival of the vessel, he instantly expired from apoplexy on arising to speak. Deceased was one of the most widely known members of the American medical profession, and was invested with a personality so unique as to have inspired the expression—"There is but one Love." He was born in Barry, Pike county, Illinois, September 13, 1848, and at the age of thirteen years went to reside with the family of a Saint Louis relative, Doctor John T. Hodgen. After receiving his preliminary education he began the study of medicine and in 1872 graduated from the Saint Louis Medical College of the old Washington University. He achieved success as a general practician in Saint Louis, and eventually drifted into the specialty of pediatrics. For a time he filled the office of city physician, and afterward held a professorship in one of the medical colleges of Saint Louis, subsequently enjoying a connection with the New York Postgraduate Medical School and Hospital, having moved to the metropolis about three years ago. He was identified with a number of medical societies, and served as president of the American Medical Editors' Association, of the Mississippi Valley Medical Association, and as chairman of the Section on Pediatrics of the American Medical Association. He was also elevated to the board of trustees of the journal of the latter association and once served a term as vicepresident of the same. In 1890 he founded the *Medical Mirror,* the editorial tripod of which he occupied until his demise. He is survived by a family consisting of a widow, a son and a daughter. Anyone who knew Doctor Love will cherish the acquaintance in fond remembrance.

RECENT MEDICAL ELECTIONS.

THE American Medical Association elected the following officers at its fifty-fourth annual meeting, which was held in New Orleans, May 5-8, 1903: President, John H. Musser, Philadelphia; first vicepresident, G. Chris. Savage, Nashville; second vicepresident, Isadore Dyer, New Orleans; third vicepresident, C. Lester Hall, Kansas City; fourth vicepresident, George F. Jenkins, Keokuk; treasurer, Henry P. Newman, Chicago; secretary and editor, George H. Simmons, Chicago. Trustees: William H. Welch, Baltimore; Miles F. Porter, Fort Wayne; Malcolm L. Harris, Chicago. Judicial Council: Frederick H. Wiggin, New York; G. B. Gillespie, Tennessee; D. C. Peyton, Indiana. Orator on Surgery, William J. Mayo, Rochester, Minnesota; Orator on Medicine, George Dock, Ann Arbor; Orator on State Medicine, Herman M. Biggs, New York. The next meeting will be held in Atlantic City, New Jersey, June 7-10, 1904.

* * *

At the annual meeting of the Michigan State Medical Society, which was held in Detroit, June 11 and 12, 1903, the following officers were elected: President, William F. Breakey, Ann Arbor; first vicepresident, George C. Hafford, Albion; second vicepresident, Wyllis S. Walkley, Grand Haven; third vicepresident, Charles S. Cope, Ionia; fourth vicepresident, Willis E. Chapman, Cheboygan. Councilors: Leartus Connor, Detroit, term to expire 1909; William H. Haughey, Battle Creek, 1909; Colonel B. Burr, Flint, 1909; William T. Dodge, Big Rapids, 1909; Albert E. Bulson, Jackson, 1907; Sidney I. Small, Saginaw, 1907; Bartlett H. McMullen, Cadillac, 1907; Theodore A. Felch, Ishpeming, 1907; George D. Carnes, South Haven, 1905; D. Emmett Welsh, Grand Rapids, 1905; Mortimer Willson, Port Huron, 1905; Henry B. Landon, Bay City, 1905. Representatives in the House of Delegates of the American Medical Association: Henry O. Walker, Detroit, 1905; Victor C. Vaughan, Ann Arbor, 1905; William K. West, Calumet, 1904; Charles B. Stockwell, Port Huron, 1904. Names to be presented to the Secretary of State for selection, by the Governor, of five as members of the Michigan State Board of Registration in Medicine: Joseph B. Griswold, Grand Rapids; George E. Ran-

ney, Lansing; Harris B. Osborne, Kalamazoo; Hugh McColl, Lapeer; Walter H. Sawyer, Hillsdale; Duncan K. Black, Greenville; William L. Wilson, Saint Joseph; Charles S. Cope, Ionia; Philander S. Root, Monroe; Lawrence D. Knowles, Three Rivers; George W. Moran, Detroit; Leavitt S. Griswold, Big Rapids; James B. Martin, Traverse City; Frank A. Towsley, Midland; Arthur D. Holmes, Detroit. The next meeting will be held at Grand Rapids in 1904.

MINOR INTELLIGENCE.

BUBONIC plague, which has prevailed in Peru for some time, has finally been eradicated. According to an official dispatch received from Pisco, dated May 20, the board of health has announced the country free from the scourge.

STATISTICS show that New Zealand, which has a death rate of eleven in one thousand, is the most healthful country in the world, while Guatemala, with the high mortality of forty-one in one thousand, is considered the least healthful.

SIR FREDERICK TREVES intends to retire from the practice of medicine in order to devote his remaining years to such occupation as he may elect. This information is credited to report, which, by the way, does not enter into detail.

As a result of the recent elections in Spain seven physicians were chosen for the upper house and four for the lower house of the Spanish parliament, while Doctor Cortez, editor of *Sligo Medico,* was selected for vicepresident of the upper house.

THE East Side Janitors' Society of New York City offers prizes to its members for keeping tenement houses clean. The last award was made to thirty-seven of a total of one hundred thirty contestants. The prizes consisted of money, medals, or diplomas.

Two cases of glanders in human beings, which resulted in the death of both subjects, have been reported at Newark, New Jersey. The second of the patients was taken to the German Hospital, New York, in which institution he died on June 3, after great suffering.

CHICAGO has a new hospital for tuberculous subjects. It was erected at a cost of one hundred seventy-five thousand dollars and affords accommodation for three hundred beds. The institution, which is located at the corner of Forty-eighth and Division, has been christened Saint Ann's Sanitarium.

AT the annual meeting of the Washtenaw County Medical Society, which was held at the residence of Doctor James M. Heuston in Ypsilanti last month, the following officers were elected for the ensuing year: President, Doctor Cyrenus G. Darling; vicepresident, Doctor John A. Wessinger; secretary-treasurer, Doctor John William Keating. Board of trustees: Doctors James F. Breakey, James M. Heuston, and James A. Wallace.

Doctor Adolph Lorenz performed two operations for unilateral congenital hip dislocation at the Hospital of Jefferson Medical College on June 29.

Cholera is increasing in Manila to an alarming extent. The health authorities of the city recently distributed thirty thousand leaflets containing instructions for the prevenion of the disease. A placard is displayed in every household and in all carft plying the bay and river.

Buildings for the treatment of contagious diseases and for the care of children will be erected in connection with the county hospital at Chicago. Accommodations for the reception of one hundred fifty contagious cases and one hundred thirty children will be afforded by the new structures, the estimated cost of which is one hundred twenty-five thousand dollars.

The Denver Academy of Medicine recently installed the following officers: President, Doctor Henry Sewall; vicepresident, Doctor G. B. Packard; secretary, Doctor C. K. Fleming; secretary of the board of trustees, Doctor H. W. McLauthlin; board of trustees, Doctor L. E. Lemen, Doctor Jayne, Doctor McLauthlin, Doctor W. W. Grant, Doctor I. B. Perkins and Doctor Thomas H. Hawkins.

RECENT LITERATURE.

REVIEWS.

DISEASES OF THE EYE, NOSE, THROAT AND EAR.*

Beyond question the first impression that a new book makes upon a reviewer affects more or less the lasting opinion which he shall hold. In this instance the first effect is unusually agreeable, and fortunately a closer acquaintance even enhances it. This volume is inclusive of departments ordinarily kept separate. The eye, ear, nose and throat are treated of individually, as they would be in separate texts, and also in their relation with each other and with the whole body. We shall not attempt to give any particular contributor a special mark of credit, as the work is so uniformly well done. The text is splendidly illustrated by colored plates and engravings, all of which reflects most credibly upon the painstaking of the publishers.

*By Eminent American and English Authors. Edited by William Campbell Posey, Surgeon to Wills Eye Hospital, Philadelphia, and Jonathan Wright, M. D., Laryngologist to the Brooklyn Eye and Ear Hospital, et cetera. In one octavo volume of 1234 pages, with 650 engravings and 35 plates in colors and monochrome. Cloth, $7.00 net; leather, $8.00 net. Lea Brothers & Company, Publishers, Philadelphia and New York.

SYPHILIS: A SYMPOSIUM.*

THE articles embraced in this volume have appeared separately in the *International Medical Magazine,* but their noteworthy and authoritative character made them deserving of this permanent combined form.

*By seventeen different writers. Price, $1.00. E. B. Treat & Company, New York.

PRACTICAL MEDICINE SERIES.

THIS volume reviews the progress made along the lines of diseases of the respiratory organs, circulatory organs, infectious diseases, constitutional diseases, and others of a miscellaneous character. The wants of general practicians are especially consulted in the publication of this series.

*Under the general editorial charge of Gustavus P. Head, M. D. Edited by Frank Billings, M. S., M. D., with the collaboration of S. P. Stanton, M. D. The Year Book Publishers, Chicago.

PROGRESSIVE MEDICINE.*

THIS volume contains the usual amount of the best and latest literature, presented in the clear style that especially characterizes this publication. Too much praise cannot be given a work of this character. Its authors are all men who have gained international reputation and are masters in their special lines. The general practician and the specialist can rest assured that the proper interpretation is given of all subjects which have required abstraction from foreign journals. The subject matter is divided into four sections. Doctor William B. Coley discusses very knowingly the surgery of the abdomen, including hernia. Considerable space is given to the newer methods of stomach surgery. Doctor John G. Clark writes the chapter on gynecology, in which he reviews and comments especially upon the many phases of cancer of the uterus and differential diagnosis of pelvic conditions. The section on diseases of the blood and ductless glands, the hemorrhagic diseases, is written by Doctor Alfred Stengel, and is especially full. Many of the newer staining methods are described and the latest knowledge of the condition of the blood in various diseases as well as of the classification of blood diseases is considered very thoroughly. The section on ophthalmology, edited by Doctor Edward Jackson, is in keeping with the high standard of the other sections.

*A Quarterly Digest of Advances, Discoveries and Improvements in the Medical and Surgical Sciences. Edited by Hobart Amory Hare, M. D., Professor of Therapeutics and Materia Medica in the Jefferson Medical College of Philadelphia. Fifth annual series, Volume II, June, 1903. Octavo, handsomely bound in cloth, 427 pages, with 46 illustrations. Per volume, $2.50, by express prepaid. Per annum, in four cloth-bound volumes, $10.00. Lea Brothers & Company, Publishers, Philadelphia and New York.

DESCRIPTION OF PLATES.

The figures were drawn with a Leitz eye-piece number 4, homogeneous immersion one-twelfth.

Figure I—Case of General Peritonitis.
    A—Normal neutrophile.
    B—Neutrophile, showing reaction.
    C—Red blood corpuscles.
        Drawn by Doctor Penoyer.

Figure II—Case of Acute Appendicitis, with Pus.
    Four neutrophiles, showing reaction.
        Drawn by Doctor O. E. Breitenbach.

Figure III—Case of Acute Appendicitis, with Pus.
    A—Red blood corpuscles.
    B—Neutrophiles, showing reaction.
        Drawn by Doctor O. E. Breitenbach.

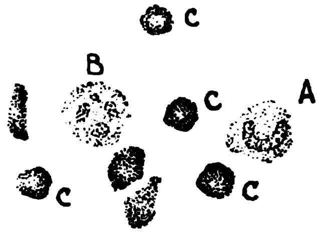

FIGURE I.
GENERAL PERITONITIS

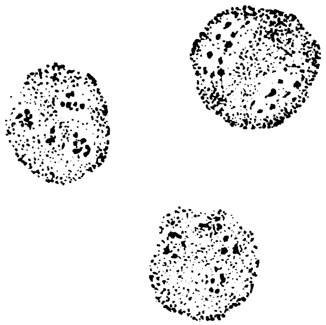

FIGURE II.
ACUTE APPENDICITIS
WITH PUS.

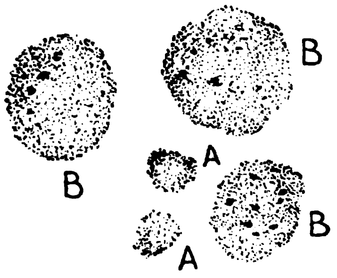

FIGURE III.
ACUTE APPENDICITIS
WITH PUS.

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ORIGINAL ARTICLES.

MEMOIRS.

THE IODIN REACTION IN SURGERY.*

By CONRAD GEORGE, Junior, A. B., M. D., Ann Arbor, Michigan.

ASSISTANT IN SURGERY IN THE UNIVERSITY OF MICHIGAN.

The fact that the leukocytes of the blood in patients suffering from toxemia or general pyemia contain granules which stain a reddish brown with iodin has been known for over twenty years. The reaction is obtained as follows: Cover-glass spreads are made of the blood taken from the finger of the patients. These spreads are not fixed, but simply allowed to dry in the air. Upon a clean glass slide put a good-sized drop of the iodin solution made according to the following formula:

Iodin	1.0
Potassium Iodid	3.0
Water	100.0
Gum Arabic	50.0

The cover-glass spread is applied to the solution and the excess of iodin removed by means of filter paper. The examination should be made by good sunlight and an oil immersion lens. The red blood cells will be stained a bright yellow and the leukocytes of normal blood will show the same color, the granules being of the same color as the rest of the protoplasm. The nuclei of the leukocytes are a little more refractile than the protoplasm. In diseased blood there will be found in the protoplasm of the polymorphonuclear neutrophiles certain reddish-brown granules of various sizes and shapes or a diffuse brownish coloration and small or large masses outside the white blood corpuscles, which are stained a reddish-brown.

It appears almost immediately, and I have been able to get it five or six months after the spreads were made. The extracellular reaction I have not found to be constant. The intracellular reaction, however, is of some value in the diagnosis of disease.

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*Read before the Washtenaw County (Ann Arbor) Medical Society.

The extracellular reaction with iodin can be found in all cases, and I have found the increase of these granules of no diagnostic importance, as it is not a constant sign. These extracellular granules are round, oval or irregular-shaped masses of a reddish-brown color. Locke, of the Boston City Hospital, has found by a comparison of preparations of blood made with Wright's stain and iodin that the blood plates and the small masses of protoplasm in which these extracellular granules are found are identical.

The intracellular reaction presents the following peculiarities: By means of differential counts I have generally found the reaction to be present in neutrophiles. When the reaction is present we find in the protoplasm of these leukocytes a few or numerous granules of various sizes and shapes stained a reddish-brown to a pink color. These granules may be evenly distributed throughout the protoplasm or grouped around the nucleus or at the periphery of the cell. Their shape is round, oval, or very irregular. There may be only a very diffuse brownish discoloration of the protoplasm. In some cases only a few neutrophiles are found which present this reaction. So far as known this reaction has not been observed in the eosinophiles. We have regarded the reaction as faint where the granules are not distinctly outlined with a reddish-brown color but the protoplasm is diffusely colored. The degree of the reaction varies from this diffuse coloration to specimens in which the granules have a pink color, well outlined.

HISTORY OF THE REACTION.

Ehrlich first pointed out this reaction in 1883, having found it both in the leukocytes of the blood and pus. He added gum arabic to the solution of iodin in potassium iodid used in making this test. This prevents the glycogen of the cell from passing into solution and thus escaping notice. His formula is the one used at present in carrying out the test.

Gabritschewsky studied the reaction in 1891. He never found the reaction in the eosinophilous cells. He succeeded in producing this reaction in dogs by injecting solutions of glucose and pepton into the blood or into the abdominal cavity, and called attention to the fact that glycogen can be made in the body both from proteids and carbohydrates. This glycogen disappeared from the leukocytes in about four days. After the removal of the pancreas he obtained an intense iodin reaction in the leukocytes, but not so marked after the ingestion of phloridzin, undoubtedly because the sugar is not increased in the blood after the use of phloridzin. These experiments indicate that the leukocytes may, under certain conditions, convert glucose or pepton into glycogen.

Czerny has done a great deal of careful experimentation upon the iodin reaction, and his work constitutes a notable contribution to our knowledge of the subject. He found a leukocytosis in all cases in which the reaction was present, thus differing from the observations of Hofbauer in 1899, and Cabot and Lodge in 1902, who found the reaction in cases without leukocytosis, or even when the leukocytes were below the normal number. Czerny found the reaction in pus. By experimentation upon animals he found that any one of three general conditions in the body may bring about the reaction. The conditions are disturbed respiration, anemia, and abscess. He examined the blood of both the peripheral and central circulation of dogs and found the iodin reaction absent in healthy dogs. After placing young dogs in a cellar at a temperature of twenty degrees centigrade for twenty-four hours he found the iodin reaction marked. After removing the animals to a warm room the reaction diminished in intensity gradually, entirely disappearing within four days. I have found the same conditions present in dogs kept for any length of time in the animal room of the surgical laboratory. The lack of fresh air resulting from the necessary confinement seems to bring about the reaction in these dogs.

By experimentation Czerny found no relation between the iodin reaction in leukocytes and the loss of glycogen in the liver. He produced dyspnea in a dog weighing four thousand one hundred grams by cutting both vagi without narcosis. Within ten hours one-third of the leukocytes gave the iodin reaction. This increased in intensity until death occurred twenty-six hours later. By means of the actual cautery he produced double pneumothorax in four dogs. Three were killed on the fourth, sixth and eighth day respectively. The fourth died on the second day after the operation. Within twenty-four hours the iodin test appeared in some of the leukocytes. There was no formation of pus in the pleural cavity. The reaction increased in intensity until death appeared. Thus by animal experiments he demonstrated that an artificially produced dyspnea, if continued long enough, will cause the iodin reaction to appear in the leukocytes. Observations upon cases of dyspnea occurring clinically give the same results. Other observers have recorded similar results in cases of pneumonia with marked dyspnea.

To ascertain the relations which anemia may bear to the production of the iodin reaction in leukocytes, Czerny produced artificial anemia in dogs. He bled a dog from the carotid artery and examined the blood at short intervals until death ensued. These examinations gave a negative iodin test. He then produced anemia more gradually in order to more nearly approximate the clinical condition of anemia. On the first day he removed sufficient blood from the carotid to make the heart beat irregularly, then ligated the carotid and closed the wound in the neck. The mucous membranes became pale but the blood did not react to iodin immediately before and after the operation. On the second day the reaction was present in a large number of leukocytes and could be observed for six days.

Czerny also examined the relation of leukocytosis to the iodin reaction produced by the injection of oil of turpentine subcutaneously. Small dogs were subjected to two injections of one cubic centimeter each in different places, and large dogs were given four to six such injections. On the fourth day the animals were much depressed, but recovered in the next few days and large abscesses developed at the points of injection, which reached their maximum on the fifth to sixth day. After spontaneous rupture or opening with the knife, these abscesses healed very rapidly. The pus contained a little blood and some necrotic portions of tissue. The pus gave the iodin reaction. The blood showed a leukocytosis but no iodin test during the first twenty-four hours; on the second day a few of the leukocytes showed a light brown color, and on the third day the reaction was complete, when the abscess was noticeable. After opening the abscess the reaction disappeared within two or three days. The same results were obtained by the use of silver nitrate.

Czerny advances the theory that the leukocytes which give the iodin test wander from the abscess into the blood. It is not to be observed in all degeneration processes. It did not occur in cases of fatty degeneration experimentally produced in animals by phosphorous poisoning. One dog lived two days and the other five and a half days.

I made a few experiments on dogs to determine whether leukocytosis artificially produced could cause the iodin reaction to appear in the leukocytes. For this purpose I examined the blood of the jugular vein, counting the red and white blood corpuscles and making cover-glass spreads of the blood. I then injected a small amount of the cinnamate of soda in proportion to the weight of the animal and examined the blood three or four hours later. For the first dog ether anesthesia was employed and for the others chloretone. The latter anesthetic was selected to eliminate the effect of ether in producing a leukocytosis. The animal was kept under the anesthetic during the whole period of the experiment, four to five hours.

Experiment I.—May 21, 1902: A dog weighing two kilos; ether anesthesia. One-quarter gram of cinnamate of soda in normal salt solution was injected into the jugular vein. Before the injection the leukocytes were 12,279 and the reds 5,406,000. Iodin negative. Four hours after the injection the leukocytes were 20,372 and the red blood cells 5,706,000, and there was a marked iodin reaction in the majority of the leukocytes.

Experiment II.—May 22, 1902: A dog weighing four kilos; chloretone anesthesia. One-half gram of the cinnamate of soda was injected into the jugular vein. At 4:36 P. M. there were 15,279 leukocytes and 5,112,000 reds; 8:40 P. M., 24,955 leukocytes and 5,920,000 reds. At this time there was a marked iodin reaction in the majority of the leukocytes.

Experiment III.—May 23, 1902: A dog weighing four kilos; chloretone anesthesia. One-half gram of the cinnamate of soda was injected. At 4:36 P. M. the leukocytes numbered 9,167, the reds 3,840,000. At 8:40 P. M. there were 13,243 leukocytes and 6,140,000 reds. Iodin positive.

Experiment IV.—May 24, 1902: A dog weighing four kilos; chloretone anesthesia. No cinnamate of soda was injected as a control experiment. At 4:15 P. M. the leukocytes numbered 6,621, the reds 3,920,000; at 8:45 P. M. there were 9,676 leukocytes and 3,840,000 reds. There was no iodin reaction in the leukocytes.

These experiments showed a marked increase in the number of leukocytes in the blood as a result of the injection of the cinnamate of soda into the jugular vein, and the development of a marked iodin reaction in the majority of these leukocytes. Other substances such as potassium chlorate, pyrodin, ether and bacterial products will produce a leukocytosis when injected into the blood. By differential counts the majority of these leukocytes were found to be polynuclear. The clinical observation that the iodin test may occur in leukocytes when there is no leukocytosis, and does not occur in some cases with a marked leukocytosis, shows that there must be some other cause than leukocytosis for the iodin reaction. This point has not as yet been worked out.

Barfurth showed that glycogen, when heated, was decolorized and gained its original color with iodin upon cooling. The leukocytes having the iodin reaction respond to the same tests, indicating that the substance which gives the iodin test is glycogen chemically.

Kaminer also studied the iodin reaction in the gynecologic department of Professor Senator's clinic. In a case of puerperal fever, following abortion with retention of placenta, there was a marked leukocytosis, most of which gave an intensely red iodin reaction. This reaction continued on the second and third day, and on the fourth day a small area of painful infiltration could be felt posteriorly which gave pseudofluctuation. On the fifth day there was distinct fluctuation and the leukocytes showed an intense iodin reaction, which continued for two days after the abscess was opened. The reaction diminished in intensity on the third day, disappearing entirely on the fifth. The author regards the reacting substance as glycogen. Czerny, however, regards it as an antecedent to amyloid. I have found the reaction present in the secondary stage of syphilis, a fact which tends to support the theory of Czerny, that the reacting substance is amyloid. Kaminer regards the three conditions, fever, leukocytosis and toxemia, as factors in the production of the iodin reaction.

I have employed the iodin test in the examination of patients in the surgical clinic at the University Hospital. The blood of every patient who enters into the surgical clinic is examined for the hemoglobin, the number of red blood cells and leukocytes. I have found the reaction present in all cases of abscess or when any grave general condition was present. A marked toxemia without the formation of pus will produce the reaction. It increases in intensity with the gravity of the pathologic process within the body, and gradually diminishes with the evacuation of the abscess or diminution of the septicemia. I have found the reaction of some value in determining the necessity for an operation to save life in appendicitis and other serious abdominal conditions. I will add the histories of a few of these cases, to demonstrate the usefulness of the reaction.

Case CCCXIV.—E. A., Tekonsha, Michigan. Admitted December 19, 1901; discharged September 1, 1902. Patient had pleurisy in December, 1900. The pleura was aspirated twice for pus. In May, 1901, a piece of rib was removed and a drainage tube inserted. Pus discharged until October. On December 15 the scar broke and about a pint of pus escaped.

Patient was operated upon for empyema December 23, 1901, by Doctor Nancrede, who resected the third, fourth, fifth, sixth and seventh ribs, leaving an elliptical opening in the pleural cavity. A quart of pus was removed. Patient returned in May. Daily examinations of the blood were made. There was a leukocytosis and a marked iodin reaction most of the time. On July 6 there were 12,175 leukocytes and a very strong iodin reaction, indicating retained pus.

The patient was operated upon again by Doctor Darling, July 7, 1902, in order to establish better drainage. A great deal of old blood and pus were found in the cavities.

The following are histories of cases of appendicitis:

Case CVII.—B. J. C., aged thirty-one years, Chilson, Michigan. Admitted August 27, 1902; discharged August 30, 1902. For the past four or five years patient noticed, at intervals of two months, neuralgic pains in the abdomen, also in the region of the supraorbital and supratrochlear nerves. On August 20 he noticed pain in the right inguinal region, which gradually spread over the abdomen. Patient vomited once, bowels moved every day, and headache was a symptom at intervals. Temperature 100.8° Fahrenheit; pulse 106—bounding, easily compressed, tension small. He recovered without operation. Blood examination on August 27, 1902, showed ninety per cent hemoglobin, 6,408,000 reds, 14,403 whites; August 28, 1902, 13,290 whites. The iodin reaction was negative.

This case illustrates the fact that we may have a high leukocyte count and the patient still recover without operation. The iodin test was of more value in determining the prognosis of the case than the leukocyte count.

Case LXIX (Volume I, 1902).—D. C. D., aged twelve years, Butler, Michigan. Admitted August 8, 1902; discharged September 5, 1902.

BLOOD EXAMINATIONS.

Date.	*Hemoglobin.*	*Reds.*	*Leukocytes.*	*Time.*	*Iodin.*
Aug. 8	90%	4,576,000	14,960	4:00 P. M.	+
" 8	90%	3,072,000	17,029	9:00 P. M.	+
" 9	80%	4,216,000	23,635	8:30 A. M.	+
" 9	80%	4,144,000	15,199	1:30 P. M.	+
" 9	80%	4,182,000	15,437	7:00 P. M.	+
" 10	80%	4,200,000	10,301	10:30 A. M.	+
" 10	80%	4,218,000	10,807	6:30 P. M.	+

An operation was performed for appendicitis by Doctor Darling, August 8, 1902. He found an inflammatory mass adherent to the posterior abdominal wall. Three strips of gauze packing were inserted into the abdominal cavity to prevent contamination of the still uninfected peritoneum, and the cavity of the tumor was opened. Very offensive pus flowed freely. A small concretion was found in the cavity near the tip of the appendix.

Case VIII (Volume I, 1902).—J. W. E., aged eighteen years, Ann Arbor Michigan. Admitted July 4, 1902; discharged August 25, 1902.

Appendicitis began July 2, with pain across the abdomen. He vomited that evening and next morning the pain became localized in the right iliac region. Temperature, 102.4°; pulse, 100; respiration, 26. The leukocytes numbered 11,975. The iodin test was good.

An operation was performed July 4, 1902, by Doctor Darling. Just as the last piece of packing was put in the abscess ruptured and discharged about two ounces of foul-smelling dark pus. A fecal concretion was found after the appendix was removed. In this case there was a comparatively low leukocyte count, but the positive iodin reaction was in favor of abscess and indicated the necessity for early operation.

Case DCCXXVI (Volume II, 1902).—Doctor J. W. F., aged thirty-two years, Ann Arbor, Michigan. Admitted June 24, 1902; left July 8, 1902. Patient had five attacks of appendicitis and three of appendicular colic. Leukocytes, 7,479; iodin reaction good.

An operation was performed June 26, 1902. The appendix was behind the colon and very intimately connected with surrounding tissues by adhesions which were separated, and the stump of the appendix was ligated and inverted. Appendix contained a small abscess.

In this interval case there was an abscess found which might have ruptured at any time and produced fatal peritonitis. Here, again, the reaction would indicate the urgent need of operative interference.

Case XCVI (Volume I, 1902).—V. E., aged eighteen years, Chelsea, Michigan. Admitted August 12, 1902; discharged September 1, 1902. August 5, 1902, appendicitis was indicated by sudden cramps in the abdomen and pain and tenderness in the right side. Patient vomited once, and had fever August 10, 11 and 12.

The blood examination showed 13,210 leukocytes, and an iodin reaction indicating the presence of pus in the abdomen.

Doctor Darling operated August 12, 1902. A mass was found in the right side, beginning one and one-half inches below McBurney's point, apparently filling all the space between the bladder and Poupart's ligament. This mass could also be felt through the rectum. The abscess was opened by separating the tissues from the abdominal wall and about one and one-half ounces of pus oozed from the pelvis. A fecal concretion was removed from the cavity. The tip of the appendix for about an inch next to the bowel was broken down and nearly destroyed. The appendix was ligated with catgut. It was considered dangerous to attempt to bury the stump. The gravity of the disease process was not indicated by the leukocyte count because we have seen higher counts in less severe inflammatory processes, but the iodin reaction was positive and can be considered as an indication that the patient is rapidly getting worse and may die unless some radical change is made in the course of the case.

Case CXIII.—W. R., aged twenty years, South Haven, Michigan. Admitted September 1, 1902; discharged September 27, 1902. Patient was taken with appendicitis August 26, 1902, with pain, diarrhea, much tenderness and tympanites. On August 31, he was given salts, which was followed by a large passage of fecal matter and vomiting of a greenish-colored material. He was delirious after August 1, at times, but most of the time was in a torpid condition. Examination under anesthesia revealed a tumor extending to within an inch of the median line and about an inch above the line drawn from the anterior superior spinous process of the ileum to the umbilicus, apparently filling all this part of the abdomen. The colon above this point was distended with gas. Temperature 100.5°; pulse 84; respiration 26. Blood examinations before operation gave the following results:—

Date.	*Hemoglobin.*	*Reds.*	*Leukocytes.*	*Time.*
September 1	90%	4,600,000	24,628	6:00 P. M.
			27,296	8:00 P. M.
			27,923	11:00 P. M.

The iodin test showed reddish-brown granules in the majority of the leukocytes, a marked reaction.

Operation by Doctor Darling. The peritoneum was thickened and edematous; three or four ounces of foul-smelling pus were evacuated. Two or three smaller abscesses were found on the inner side of the omentum. A fecal concretion was found in the abscess cavity. The tip of the appendix was entirely destroyed. It was ligated with catgut.

The leukocytosis and iodin reaction persisted for about a week, probably on account of the retention of pus or the formation of new abscesses.

Date.	*Leukocytes.*	*Time.*	*Iodin.*
September 2	17,586	8:00 A. M.	+
“ 2	19,965	1:30 P. M.	+
“ 2	22,359	8:00 P. M.	+
“ 3	24,510	9:00 A. M.	+
“ 4	25,186	9:00 A. M.	+
“ 5	15,597	8:20 A. M.	+
“ 6	17,745	8:30 A. M.	+
“ 7	11,334	9:00 A. M.	+
“ 8	15,915	9:00 A. M.	+
“ 8	20,570	9:00 A. M.	+

Differential count on September 10, 1902:

Small lymphocytes	7½%
Large lymphocytes	17 %
Polymorphonuclear	75¼%

Date.	Leukocytes.	Iodin.
September 12	9,868	Faint
" 15	10,539	Negative

TABLE I.—INTERVAL APPENDICITIS.

Number.	Leukocytes	Iodin.	Remarks.
1	7,161	Faint	Adhesions
2	7,497	Good	Abscess of appendix
3	7,797	Negative	
4	10,106	Negative	
5	7,718	Negative	
6	8,992	Negative	
7	6,446	Negative	
8	7,002	Negative	
9	9,947	Negative	
10	6,080	Negative	
11	8,720	Negative	

TABLE II.—ACUTE APPENDICITIS WITHOUT GENERAL PERITONITIS OR LOCAL ABSCESS.

Number.	Leukocytes.	Iodin.	Duration.	Remarks.
1	14,403	Negative	7 days	
2	23,000	Negative	5 days	
3	16,273	Negative	5 days	
4	7,558	Negative	4 days	Operated
5	14,562	Marked		Ecchymosis of appendix
6	14,642	Negative		
7	16,720	Negative		
8	11,600	Good		Gangrene of appendix

TABLE III.—APPENDICITIS WITH LOCAL ABSCESS.

Number.	Leukocytes.	Iodin.
1	15,835	Good
2	14,483	Good
3	14,800	Good
4	23,000	Fair
5	11,255	Marked
6	23,933	Strong
7	11,975	Good
8	14,960	Marked
9	11,334	Good
10	14,005	Good
11	14,562	Good
12	27,296	Marked

Number.	*Leukocytes.*	*Iodin.*
13	12,096	Good
14	7,956	Good
15	10,265	Marked
16	20,868	Marked
17	16,472	Marked

TABLE IV.—ACUTE ABSCESS.

Number.	*Leukocytes.*	*Iodin.*	*Location.*
1	10,662	+	Back
2	12,812	+	Abdominal wall
3	14,483	Marked	Perinephritic
4		Marked	Hand
5	8,196	Marked	Hand
6	11,175	Faint	Leg
7	6,207	Marked	Psoas
8	7,718	Negative	Thigh
9	15,199	Marked	Leg
10	15,119	Good	Leg

ARTHRITIS.

Number.	*Leukocytes.*	*Iodin.*	*Form.*
1	3,979	Negative	Tuberculosis of knee
2	8,117	Negative	Tuberculosis of knee
3	6,789	Negative	Tuberculosis of knee
4	7,161	Faint	Tuberculosis of hip
5	7,956	Negative	Tuberculosis of hip
6	12,732	Fair	Tuberculosis of hip
7	24,112	Fair	Tuberculosis of knee
8	10,742	Negative	Tuberculosis of ankle
9	8,833	Negative	Tuberculosis of elbow
10	7,082	Negative	Tuberculosis of hip
11	6,923	Negative	Tuberculosis of shoulder
12	9,470	Marked in periphery	Tabetic
13	9,390	Fair	Tuberculosis of hip —necrosis of bone
14	10,619	Negative	Tuberculosis of knee
15	7,241	Good in periphery	Gonorrheal
16	8,674	Good in periphery	Tuberculosis of hip
17	5,829	Negative	Tuberculosis of spine
18	10,106	Positive	Tuberculosis of spine
19	7,241	Positive	Tuberculosis of wrist

ADENITIS.

Number.	Leukocytes.	Iodin.	Form.
1	8,356	Negative	Inguinal

BURNS.

Number.	Leukocytes.	Iodin.	Location.
1	10,344	Marked in periphery	
2	7,797	Good	Arm
3	6,605	Negative	Hand

BULLET WOUND.

Number.	Leukocytes.	Iodin.
1	8,880	Negative
2	20,212	Good—pus

CYSTS.

Number.	Leukocytes.	Iodin.	Form.
1	9,868	Good	Hydatid of liver
2	6,764	Good—pus	
3	14,005	Marked	Hydatid

CYSTITIS.

Number.	Leukocytes.	Iodin.
1	9,826	Marked
2	7,797	Negative
3	14,323	Fair
4	9,947	Fair in a few
5	10,344	Negative
6	10,106	Negative
7	14,164	Positive
8	7,877	Negative
9	10,619	Negative
10	6,923	Negative
11	17,666	Positive
12	13,687	Positive
13	9,390	Negative

EMPYEMA.

Number.	Leukocytes.	Iodin.
1	12,175	Marked
2	10,698	Good
3	12,911	Marked
4	9,788	Negative
5	6,605	Good
6	14,160	Marked

FRACTURES.

Number.	*Leukocytes.*	*Iodin.*	*Form.*
1	26,579	Good	Open of tibia
2		Good	Upper and lower jaws
3	7,241	Negative	Skull
4	9,868	Negative	Leg
5	8,276	Negative	Lower jaw
6	8,913	Positive	Leg
7	8,833	Negative	Dupuytren
8	7,479	Positive	Crush of foot
9	7,877	Positive	Humerus
10	19,576	Negative	Open of tibia
11	7,797	Negative	Humerus
12	7,479	Good	Colles

INJURIES.

Number.	*Leukocytes.*	*Iodin.*	*Nature.*
1	5,531	Positive	Railroad injury
2	6,923	Negative	Multiple injuries
3	5,431	Negative	Back
4	6,366	Faint	Tibia
5	5,119	Marked—pus	Leg
6		Fair—light brown	Knee

INTESTINAL OBSTRUCTION.

Number.	*Leukocytes.*	*Iodin.*	*Treatment.*
1	14,801	Marked	Operation—cure

OSTEOMYELITIS.

Number.	*Leukocytes.*	*Iodin.*	*Treatment.*
1	7,161	Fair	Operation—necrosis, bone removed
2	13,767	Positive—pus	Operation

PYONEPHROSIS.

Number.	*Leukocytes.*	*Iodin.*	*Treatment.*
1	7,161	Marked—pus	Operation

SHOCK.

Number.	*Leukocytes.*	*Iodin.*	*Cause.*	*Time.*
1	21,963	Marked	Fracture of humerus	Dec. 8, 1902, 3:00 P. M.
2	13,767	Good in a few		Dec. 9, 1902, 9:00 A. M.

Number.	*Leukocytes.*	*Iodin.*	*Time.*
3	7,558	Good in few	Dec. 9, 1902, 5:00 P. M.
4	10,380	+	Dec. 10, 1902, 1:30 P. M.
5	7,877	Good in periphery	Dec. 10, 1902, 4:00 P. M.
6	7,718	Faint	Dec. 14, 1902.
7	7,642	Negative	Dec. 16, 1902.

TETANUS.

Number.	*Leukocytes.*	*Iodin.*	*Treatment.*
1	9,708	Positive	Amputation—recovery

TUBERCULOSIS OF EPIDIDYMIS.

Number.	*Leukocytes.*	*Iodin.*	*Treatment.*
1	8,594	Positive	Operation

TUBERCULOSIS OF RIB.

Number.	*Leukocytes.*	*Iodin.*	*Treatment.*
1	8,037	Negative	Operation—resection
2	10,221	Negative	Operation—resection
3	9,231	Positive	Operation—resection

TUBERCULOSIS OF KIDNEY.

Number.	*Leukocytes.*	*Iodin.*
1	7,877	Negative

TUBERCULAR GLANDS OF NECK.

Number.	*Leukocytes.*	*Iodin.*	*Treatment.*
1	21,600	Good—pus	Operation
2	10,221	Good	

TUMORS.

Number.	*Leukocytes.*	*Iodin.*	*Kind.*
1	14,244	Fair	Adenocystoma papilloma of breast
2	13,608	Good	Sarcoma of superior maxilla
3		Negative	Carcinoma of breast
4	6,605	Fair	Sarcoma of leg
5	6,207	Negative	Fibroma of breast
6	6,446	Negative	Carcinoma of breast
7	9,151	Negative	Sarcoma of rectum
8	5,053	Negative	Fibroma of breast
9	7,558	Negative	Fibroma of breast

Number.	*Leukocytes.*	*Iodin.*	*Kind.*
10	7,479	Negative	Carcinoma of intestine
11	7,002	Positive in few	Carcinoma of breast
12	7,956	Negative	Carcinoma of breast
13	8,196	Negative	Carcinoma of breast
14	5,670	Negative	Carcinoma of rectum
15	10,662	Positive —marked	Carcinoma of inguinal region
16	7,718	Negative	Epithelioma of tongue
17	9,788	Positive	Sarcoma of thigh
18	5,590	Negative	Epithelioma of lip
19	8,833	Negative	Carcinoma of breast
20	9,231	Negative	Epithelioma of lip
21	8,196	Negative	Epithelioma of lip
22	8,435	Negative	Lipoma
23	8,196	Negative	Retroperitoneal
24	9,421	Negative	Cancer of rectum
25	6,843	Negative	Epithelioma of neck
26	6,525	Negative	Epithelioma of jaw
27	13,528	Negative	Carcinoma of rectum
28	9,788	Negative	Carcinoma of breast
29	4,074	Negative	Carcinoma of ear
30	6,446	Negative	Carcinoma of face
31	5,113	Negative	Carcinoma of rectum
32	8,356	Good	Epithelioma of lip and axilla
33	10,742	Light-brown in a few	Abdominal tumor
34	7,638	Fair	Secondary carcinoma of tongue
35	5,113	Negative	Epithelioma of jaw
36	9,390	Faint	Carcinoma of breast
37	17,666	Good	Sarcoma of jaw
38	9,629	Negative	Sarcoma, retroperitoneal
39	10,106	Negative	Epithelioma of penis
40	7,241	Negative	Sarcoma, retroperitoneal
41	23,394	Good	Sarcoma of jaw
42	12,812	Good	Carcinoma of breast

Sarcoma: Positive in five cases; negative in four cases.
Carcinoma: Positive in six cases; negative in fourteen cases.
Epithelioma: Positive in one case; negative in eight cases.
Fibroma: Negative in three cases.
Lipoma: Negative in one case.

Tumors in general do not give the iodin reaction unless they become infected with pyogenic organisms and an abscess forms or a profound condition of septicemia or toxemia arises by absorption of germs and toxic products into the blood. I have found this reaction very intense in the leukocytes of patients gradually dying of septicemia and exhaustion.

Considered alone and apart from a study of the history of the case and the clinical condition present the iodin reaction is not of much value. It can only be regarded as a symptom of a little more value than leukocytosis, but not as pathognomonic in any degree. The diagnosis of abscess or sepsis can only be made by a careful study of the reaction in connection with the other symptoms. The surgeon cannot rely upon any one symptom as an indication for operation, but must consider all together and determine the diagnosis and prognosis of the case according to the impression made by the combination of symptoms and his personal experience in that class of cases.

PATHOLOGIC CHANGES FOLLOWING LACERATIONS OF THE CERVIX*

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From the time of Emmet's first communication on the "Surgery of the Cervix Uteri," in 1869, to the present, the changes following lacerations of the cervix have been carefully studied by numerous investigators, with the result that our knowledge of the minute anatomy of the lacerated cervix has been greatly increased. In the present paper I shall confine myself chiefly to the histologic changes in the mucosa of the cervix and their relation to maglignancy.

For convenience, the mucosa of the cervix may be divided into two parts, the cervical canal and the vaginal portion. The cervical canal extends from the internal to the external os. It is lined by a single layer of tall columnar epithelium with basal lying nuclei. Beneath these and opening into the canal, are numerous acinous glands,—the cervical glands. The vaginal portion is covered by stratified squamous epithelium. Beneath the epithelium of both the cervical canal and the vaginal portion is a well defined layer of yellow elactic tissue.

The junction of the columnar epithelium of the canal and the squamous epithelium of the vaginal portion, which occurs normally at the external os, may vary through anomalies in development;

(1) Congenital ectropion, where the columnar epithelium extends outward beyond the external os, over the anterior and posterior lips as two tongue-shaped streaks.

(2) Congenital erosion, where the canal near the uterine body is constricted and expands outward toward the external os; the funnel-shaped cavity being lined by columnar epithelium.

(3) Where the lower part of the canal is covered by squamous epithelium and in the upper part changes directly into cylindrical.

These variations in the mucosa are important in that later, through inflammation and irritation, they may undergo changes similar to those conditions arising from laceration.

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* Read at the Detroit meeting of the Michigan State Medical Society, June, 1903.

Through laceration of the cervix there is a loss of continuity at one or more points in the cervical ring. In the spontaneous healing, unless it be anterior or posterior, there is more or less deformity resulting. In the case of bilateral laceration, the anterior and posterior lips are forced from each other in the direction of least resistance, the integrity of the external os destroyed and the cervical structures rolled outward, giving rise to ectropion. As a result, the circulation in the cervix is impaired and the tissues become engorged and swollen. The columnar epithelium of the cervix, with the underlying glands, being thus rolled out into the vagina, are subject to further inflammatory changes by virtue of their unnatural position.

Instead of being in the alkaline and practically sterile condition of the cervical canal, these same structures are now in the acid and infected secretions of the vagina. Sooner or later, through irritation, congestion and infection, there is set up an endocervicitis, which exaggerates the existing condition. Very frequently the process extends upward, giving rise to infective endometritis, metritis, salpingitis, parametritis, and oophoritis. As a result of one or more of these conditions, the size and weight of the uterus is increased, thus forcing the cervix lower in the vagina. The normal excursions of the uterus during respiration and walking further irritate the inflamed cervical structures. The endocervicitis, endometritis and irritation give rise to the so-called "erosions" of the cervix.

By erosion is meant the extension of the cervical columnar epithelium and glands beyond the external os, its normal limit, or beyond that point which it first occupied as a result of ectropion.

This extension is produced in three ways:

(1) By a shelving off of the upper layers of the squamous epithelium down to the basal layer, through maceration, and a rotation of the axis of mitotic division from perpendicular to parallel to the surface, thus afterward producing a simple instead of a stratified epithelium, a metaplasia.

(2) By a gradual shoving back of the squamous epithelium by the advancing columnar.

(3) By a complete desquamation of the squamous epithelium and a replacement by the columnar.

The columnar epithelium having replaced the squamous by one or more of these processes, forms glands by invagination, using the papillary depressions as starting points.

The eroded surface appears redder than the normal cervix because the single layer of columnar epithelium permits the blood in the capillaries of the stroma to be seen through it more readily than through the many layers of the stratified squamous.

There are three types of erosion:

(1) Simple, in which the columnar cells replace the squamous with no important participation of the glandular apparatus.

(2) Papillary, in which there is an increase in the size and number of the cervical glands and a proliferation of the stroma between the glands, giving rise to papillary excrescences.

(3) Follicular, in which the underlying glands are distended by their secretions, forming cysts.

As a result of ectropion and erosion there may be a desquamation of the epithelium, either columnar or squamous, with but little inflammation, or the process may be accompanied by marked inflammatory reaction, necrosis of the surface, small cell infiltration, new blood-vessels, and exudate, in fact, in all respects an ulcerative process.

When the immediate causes of the erosion, desquamation or ulceration, have subsided, that is, the irritation, endocervicitis and endometritis, there is a tendency for the part to heal. The final result of the healing is either complete, the eroded surface being again covered by squamous epithelium and the glands effaced, or the healing is incomplete, the gland cells remaining in the deeper parts of the former glands.

During the healing process there may be seen in the advancing squamous epithelium border numerous mitotic figures. This border moves forward, replacing the columnar cells, sometimes arching over, the columnar cells disappearing underneath, or by shoving under and lifting the columnar up, giving the picture of columnar epithelium resting upon squamous. When the squamous epithelium reaches a gland it may dip down into the gland, replacing the columnar cells completely, or it may only replace them in part. Again, the squamous cells may not descend into the gland at all, but growing over the mouth occlude it completely or leave an opening through which the contents may escape. It is the occlusion of the gland mouths by squamous epithelium and the consequent distention that gives rise to many of the so-called Nabothian follicles.

Through acute exacerbation of the causes leading to erosion, and through irritation, the cervical epithelium may undergo further proliferative changes. The squamous epithelium is thickened, the papillæ lengthened and the masses of cells filling the former gland increased. The simple columnar epithelium may change to stratified and the glandular invaginations become deeper. In these cases we note irregularity in the size and shape of the cells, and their nuclei are larger and hyperchromatic. This is usually spoken of as atypical proliferation and is suggestive of malignancy.

In beginning malignancy we have the above picture of atypical proliferation exaggerated. The masses of epithelial cells extend deeper into the underlying tissues, breaking through the yellow elastic layer, and show strands and fibers of it among the invading cells. As the process advances there is usualy some evidence of cornification, as shown by the beginning formation of epithelial pearls. There is more or less small cell infiltration along the advancing border and capillary changes, showing reaction on the part of the normal tissues to the invading cells. The diagnosis of malignancy at this time is usually plain.

Looking at the sequelæ of laceration from another point of view, we find that carcinoma of the cervix is far more frequent in multiparæ than in nulliparæ, while carcinoma of the body of the uterus is of about equal frequency in both. And among multiparous women those with carcinoma of the cervix have had more children than those not affected, showing that labor predisposes to carcinoma. Now the common result of labor is trauma, and its most frequent effect upon the cervex is laceration. Thus we arrive at the same conclusion from another point of view.

DISPLACEMENT OF THE PELVIC ORGANS.*

By JAMES G. LYNDS, M.D., Ann Arbor, Michigan.

The subject of displacement of the pelvic organs is so extensive that it will be possible to consider only a small part of it this evening, and therefore I will confine my remarks largely to downward displacements, or prolapse, and include, in a general way, the ovaries, tubes, uterus, vagina, bladder and rectum.

These organs are said to be prolapsed when they lie lower than their normal position. However, just what the normal position is, in a particular case, is more or less a matter of judgment on the part of the individual examiner. In determining this one has to bear in mind the great mobility of these organs when in a perfectly healthy condition, the greater freedom of motion in some relaxed conditions, and also the marked difference in the length of the vagina and depth of the pelvis in different individuals. Beside these it is necessary to take into consideration the condition of the bladder and rectum, for the uterus will be found to occupy somewhat different positions when these organs are full, partially filled, and empty. While there may be an apparent prolapse and anteversion when the bladder is empty, when it is distended there may be ascent and a degree of retroversion, and, when there is a relaxed condition of the ligaments, the uterus may be found anteverted one day and retroverted the next, or vice versa.

It is claimed by some that only when local or constitutional suffering is produced can the condition be said to be sufficiently pathologic to demand treatment. This at first thought seem to be a fair proposition, but if you will give it a moment's consideration I believe you will think otherwise. Take, for instance, many cases of retroversion occurring after confinement. The patient makes an apparent perfect recovery and leaves the bed feeling as well as one could wish. An examination reveals a retroverted and prolapsed uterus, the ovaries and tubes being dragged down more or less with it. The perineum is intact, having escaped laceration or has been properly repaired. The woman has no symptoms of trouble, and if one does not follow the routine practice of examining confinement patients after convalescence there is often no symptoms to make one suspect that displacement exists. Such a patient may live weeks, months or even years before any symptoms referable to the genital organs are manifest, but soon or late they will surely appear. The simple displacement causes little if any disturbance, but there is an interference with the circulation, especially the return flow from the parts, the organs remain congested, and eventually changes take place which will produce symptoms and not unfrequently result in pathologic conditions that require the sacrifice of one or more organs. The displacement, the primary affection, becomes the least important factor to manage, but timely replacement and proper care in the direction of keeping the parts in position until the ligaments recover their tone would obviate the difficulty.

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*Read before the INGHAM COUNTY (Mason, Michigan) MEDICAL SOCIETY.

I may, as I proceed, give you further examples of this kind, but for the present consider these sufficient to demonstrate the folly of allowing displaced organs to go uncared for until serious condition exists.

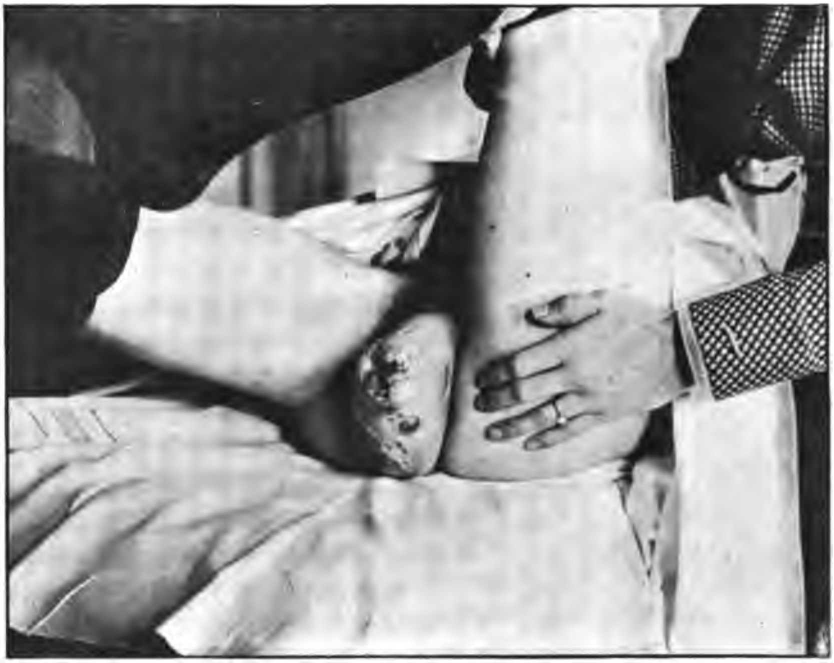
PROLAPSE OF THE OVARIES AND TUBES.

As is well known the proper position of the ovaries and tubes is at the sides of the pelvis on the posterior and superior surface of the broad ligaments, the organs being one to one and a half inches outside the uterine body, and the tubes extending two to three inches upward and outward toward the pelvic wall. While prolapse of these organs is usually secondary to retroversion or prolapse of the uterus, occasionally when the uterus is in position those on one or both sides will drop down beside or behind it and remain there, eventually sinking low into Douglas' culdesac and crowding the posterior vaginal wall forward and downward, forming what is known as a vaginal ovariocele. Often I believe a diseased condition of these organs is the cause of this prolapse; occasionally, however, we find comparatively healthy organs in this position, but, allowed to remain for any length of time they do not continue healthy. Tuberculosis is so frequently observed in these parts when chronic displacements or inflammatory conditions exist that there can be little doubt of their acting as a marked predisposing cause. Replaced and kept in position, even when considerably diseased, they often recover. Allowed to remain they invariably continue the degenerative process, become cystic, adherent, and often completely encased in an inflammatory exudate which compresses the sensitive organ, preventing the normal development and rupture of the Graffian follicle and giving rise to great suffering and disturbance of the entire nervous system, frequently, I believe, driving the poor sufferer across the borderland of insanity.

For these reasons I advocate the replacement of seriously displaced ovaries and tubes when discovered, before they are thoroughly diseased and recovery is impossible. In young women or those under forty, who are without children, this is especially important, as by the separation of adhesions, removal of cysts, and replacement, not only is a great amount of suffernig and nervous disturbance prevented, but sterility is frequently overcome and the long cherished hope of maternity realized.

PROLAPSE OF THE UTERUS.

When the uterus becomes prolapsed the appendages are dragged along with it, and especially is this true when the fundus becomes displaced posteriorly, as it so frequently does. If the prolapse becomes marked the vagina, bladder, and rectum are correspondingly carried down, and instead of having to consider and deal with one organ all those contained in the pelvis must be taken into account.



Complete Prolapse.

I make three divisions of uterine prolapse:

(1) Simple prolapse: When there is a simple descent of the organ in the pelvis.

(2) Prolapse with change in the uterine axis: When the fundus is displaced posteriorly and generally the cervix anteriorly.

(3) Procidentia, partial and complete: Complete when straining or the erect position causes the entire uterus to lie outside the vulva, the vagina being inverted. Partial when a portion of the uterus is outside with partial inversion of the vagina, the fundus lying correspondingly low. I mean here to differentiate between a prolapsed and an hypertrophied organ in which we find an elongated cervix protruding from the vulva with or without partial inversion of the vagina, but where the fundus is found in practically its normal position. The uterus is usually retroverted, retroflexed, or a combination of each exists, but it is important to bear in mind that it sometimes occurs

when the normal or even an abnormal anteversion or anteflexion is present.

Etiology.—On this part of the subject I will say little more than remind you of the three general causes, namely, decreased support, increased weight, and increased abdominal pressure. Considering the supports, there are below, the perineum and vagina with its lateral attachments to the pelvic walls, and above, the uterosacral, uterovesical, broad and round ligaments. Personally, I give these ligaments more credit for supporting the uterine and intraabdominal organs than they generally receive. It is a well-known fact, and one I have no doubt many of you have observed, that when these ligaments become relaxed and weakened the uterus will sag even in young women in whom the supports below are perfect, and in elderly nulliparous women I have seen both incomplete and complete procidentia a number of times. On the other hand, I have seen the uterus and its appendages remain in perfect position for years when a complete laceration of the perineum and prolapse of the lower part of the vagina were present. Understand me, I do not mean to belittle the sustaining power of the perineum and vagina, for I fully appreciate their great importance and am thoroughly convinced that a large majority of the cases of procidentia are due primarily to a weakened condition of these parts and could be prevented if they were properly strengthened at the right time. The supports below, the ligaments, and the so-called retentive power of the abdomen above, are all necessary in the majority of cases to properly support these organs; and the weakening of any one of them is likely to result in a downward displacement soon or late unless the uterus be correspondingly light and easy of retention. It must not be forgotten that a large, heavy uterus will of itself overcome all ordinary supports and become prolapsed. Thus we observe a very fine and equalized adjustment between the strength of the supports and the parts to be supported.

A study of the different ways in which a prolapse begins will demonstrate what factor of support has been at fault. The sagging begins either at the vault or outlet of the vagina. When at the vault the uterus settles down and inversion of the vagina begins above. This may occur when the pelvic floor is intact, and is due to a weakened or relaxed condition of the ligaments, an unusually heavy uterus, or the retentive power of the abdomen is replaced by an expulsive power so great as to overcome the supports and force the organs down. When the sagging begins about the vaginal outlet it is due to a weakened condition of these parts. The vaginal wall sags through the vulva together with the bladder and rectum, giving rise to cystocele and rectocele. The inversion of the vagina begins at the vulva, and upper portions of the vagina and uterus are dragged upon, the uterine ligaments are called upon to support this extra weight and generally are unable to do so, consequently all the organs are dragged down together. Montgomery calls the former uterovaginal, the latter vaginouterine prolapse. In the first the causes are in the pelvis, where the prolapse begins, in the latter at the vulva.

Diagnosis.—In simple prolapse the diagnosis is made by digital examination, the uterus being found nearer the vaginal outlet than normal, the cervix frequently resting on the perineum. In prolapse with change in the uterine axis the cervix generally lies close to the anterior vaginal wall and the ostium vaginæ, the body back against the bowel either in retroversion or retroflexion.

The diagnosis of procidentia while apparently very simple is frequently made when it is not present. It is necessary to differentiate from tumors of various kinds, enterocele, rectocele, cystocele, urethrocele, inversion of the uterus, and, more than all else, elongated or hypertrophied cervix. A very superficial examination is generally all that is necessary to differentiate these conditions, yet mistakes are frequently made. The most common probably is that of mistaking an elongated cervix. When one sees a cervix protruding from the vulva it seems quite natural to call it prolapse or procidentia, when it is quite as likely to be an elongated cervix. I call attention to this error especially because it has a very important bearing on treatment and prognosis. The cervix is divided anatomically into three portions, namely, the vaginal, the intermediate, and the supravaginal. You will note the attachment of the anterior vaginal wall at the top of the vaginal portion and of the postvaginal wall at the top of the intermediate portion. In procidentia the entire uterus, appendages, vaginal vault, and bladder descend together. In elongation of the cervix the body remains in practically its normal position. If the vaginal portion alone hypertrophies the vaginal vault is not disturbed, neither is the canal shortened. If the intermediate portion elongates the anterior vaginal wall and usually the bladder is carried down with it and this portion of the vaginal canal is correspondingly shortened. If the supravaginal portion elongates the entire vaginal vault is carried down exactly as in procidentia, but the uterine body, its attachments, and appendages remain in their normal positions practically undisturbed.

Now, note that in complete and partial procidentia the support of the pelvic floor, be it little or great, is overcome, the lateral attachments of the vagina and bladder are destroyed to greater or less extent according to amount of inversion, and the uterine ligaments and pelvic peritoneum are stretched so that they lie outside the vulva. (The photoengraving illustrating this paper will demonstrate to what extent this condition may occur). This differential diagnosis is of the greatest importance in giving a prognosis and deciding upon treatment, as in hypertrophy the treatment is simple, safe, sure, and involves the loss of none of the organs, while in procidentia the prognosis is uncertain and anything that promises a cure more difficult and dangerous.

Tumors protruding from the vulva are sometimes mistaken for procidentia, but by locating the body and cervical canal there is no occasion for this error. In inversion of the uterus the fundus is likely to present at or outside the vulva, but is more likely to be mistaken for a tumor than procidentia. I once saw a well-known operator amputate at the vaginal vault thinking he was removing a fibroid, but an examination of the removed specimen showed it to be the inverted uterus with the appendages inside. However, the absence of the cervical canal and of the body above the vault should lead to a correct diagnosis in this condition.

ENTEROCELE.

Prolapse of the omentum and intestine, one or both, occasionally occur by carrying down Douglas' culdesac until it protrudes from the vulva, or sometimes when retroversion exists, by crowding down the bladder, separating its attachment from the vagina and thus presenting externally. The latter condition I have never seen, but I have seen four cases of the former. The largest, which contained intestine, omentum, and some fluid, was as large as a child's head. One contained nothing but ascitic fluid.

TREATMENT.

Procidentia.—This is certainly one of the conditions wherein prevention is better than cure, especially the prevention of procidentia, and most of all complete procidentia in which a cure, in the sense of returning the parts to a normal condition is practically impossible. I believe, however, that every case could be prevented if given the proper treatment at the right time.

Phophylactic treatment consists in the careful examination of every patient after confinement and the proper repair of all injuries. This, not only immediately after delivery, but again after the woman has been about for a time lifting her baby and doing such other work as would prove likely to effect a weakened condition of these parts. If at this time there is found a tendency to uterovaginal prolapse, it is, as I have previously stated, due to a weakened condition of the ligaments, and a properly fitted pessary will relieve them of their load and hold the uterus in position until they have time to regain their proper tone. This will require probably one month, possibly six. The patient should be watched for some time after its removal and if still a tendency to prolapse or retroversion exists the pessary should be worn for a longer time.

If a tendency to vaginal or vaginouterine prolapse is discovered it will indicate a lack of support at the outlet, and surgical repair of the part is the only remedy and should be done before the upper portion of the vagina and uterus are dragged down from normal position. If these conditions were borne in mind and corrected when found, as they should be, soon after confinement, procidentia would be so uncommon as to be regarded a curiosity.

Simple Prolapse.—When the uterus sags low in the pelvis, resting, as it often does on the pelvic floor, and giving rise to backache, dragging, dysmenorrhea, and pressure on the perineum, the indications are for some support to take the weight off the overstretched and sensitive ligaments, as well as the perineum, and a well-fitted pessary will generally fulfill the indication, but should it fail an abdominal suspension may prove necessary to give relief or effect a cure.

It may be laid down as a law that when the prolapse is uterovaginal a pessary or some abdominal suspending operation is necessary to retain the organs in correct position. (This is equally true in simple prolapse, prolapse with retroversion, or prolapse with anteversion). When the prolapse is vaginouterine in nature a narrowing of the vagina and strengthening of the perineum is indicated. If both forms are present a combination of both measures is usually necessary to secure success.

Elongated Cervix and Partial or Complete Procidentia.—I called attention to the conditions present in elongation of different portions of the cervix for the purpose of showing you how it differed anatomically from prolapse, and now I will attempt to demonstrate to you the difference in prognosis and treatment.

When the vaginal portion of the cervix only is elongated, the body, vagina, and bladder being in position, the treatment amounts to a simple amputation. I make an anterior and posterior flap near the vaginal vault, strip them back from as much of the cervix as seems advisable, cut off the cervix and stitch the flaps to the mucous membrane of the cervical canal in the center, and unite them at the sides. If the perineum is weakened it should be repaired as a prophylactic measure. When the intermediate portion is longated, the anterior vaginal wall inverted, and the bladder prolapsed, the incision for the anterior flap must be made below the bladder attachment in order to avoid wounding that organ. This flap is dissected from the cervix as far back as necessary, the posterior flap is made as before, near the vault, and the operation completed in like manner. This procedure carries the anterior vaginal attachment to where it originally belonged and replaces the bladder. Owing to the fact that the vaginal wall and bladder have been severed from their attachments to the pelvis to a greater or less extent, depending upon the amount of inversion, it is sometimes necessary to do an anterior colporrhaphy as well as a posterior colporrhaphy and perineorrhaphy in order to obtain further support. When the elongation is supravaginal both flaps must be made low down in order to avoid wounding the bladder, and peritoneum then dissected back to the lower portion of the body where the cervix is amputated, the flaps stitched to it as before, and anterior colporrhaphy, posterior colporrhaphy, and perineorrhaphy done if necessary. Frequently the peritoneal cavity is opened, in Douglas' culdesac, during the operation, but it is of no consequence and does not interfere with its completion in any way. The prognosis in these cases is good. There should be no mortality and every case should be cured.

In incomplete procidentia the conditions present must decide what measures are to be taken for their relief. If the uterus be small and not too sensitive, and the pelvic floor in a condition to sustain a pessary, patients may be made very comfortable with this instrument. In cases wherein operation is contraindicated as, for example, in feeble elderly persons or those suffering from diseases which make operations inadvisable, a well-fitted pessary will give great relief.

When a large, heavy retroverted uterus with lacerated cervix and prolapsed and diseased appendages present, and the patient be nearing the menopause, I believe the best treatment is to remove the diseased organs and complete the operation in the manner I shall describe later.

If the patient be younger or object to having the organs removed, I would curet thoroughly, amputate or repair the cervix, perform an anterior or posterior colporrhaphy, as indicated, and strengthen the pelvic floor. Then, if necessary, I should perform a ventrofixation or shorten the round ligaments, as seemed best.

In complete procidentia, with inversion of vagina and prolapse of bladder and rectum, any of these measures seldom prove satisfactory.

I have seen cases with the cervix and vaginal vault hanging outside the vulva within one year after all this had been done, the attachment of the uterus to the abdominal wall still remaining.

All kinds of procedures have been tried, from hooping the vagina with silver wire to crowding the organs inside and closing the vulvar opening and all have proven unsatisfactory. When carried into position and the pelvic floor restored or even the opening closed, they immediately drop down again, and, resting on the newly-restored tissues, either prevent good union or soon distend it and again lie outside. I cannot see that any benefit is to be derived from fastening the uterine body to the vagina, peritoneum, or bladder in front, when all alike are loose from their attachments and supports, and all drop down together. It would certainly result in nothing better than dragging the bladder that much more out of position if the retroversion returned, or, crowding it that much farther down in front if it remained anteverted.

Experience has proven in many cases that even anterior fixation does not prevent a speedy return of the prolapse. As I mentioned a moment ago, I have seen patients in whom even the prolapse was incomplete and amputation of the cervix, curetting, anterior colporrhaphy, posterior colporrhaphy, perineorrhaphy, and ventral fixation had been done, and well done, return in a short time with the cervix again outside the vulva.

I believe there is a way, however, by which even the worst cases can be given permanent relief, providing the patient be in a condition to undergo the necessary operation. It would probably not be advisable in all cases, however, as, for example, in aged and feeble persons who have but a short time to live at the best, and to whom other measures, such as a perineal bandage and pad or pessary, give a fairly comfortable existence, although I have done the operation successfully a number of times in patients over seventy.

When considering the etiology we found the causes of the procidentia to be a weakened condition of the pelvic floor, a weakened condition of the ligaments, increased pressure from above, and a heavy uterus. In procidentia it is common to have all these causes acting, and even more. The uterus is not only large and heavy but it has become a dilating wedge, and strengthen the outlet as you will unless this constantly-acting dilator is kept off the parts the work will soon be undone and the uterus again be outside.

The intraabdominal pressure is, as a rule, greatly increased in these cases, for they are generally fleshy, having thick, heavy abdominal walls containing large quantities of adipose tissues and large fatty deposits within the abdomen. Because of the fact that they are unable to exercise this is likely to become greater as time ensues, and thus the pressure from above be increased. It is possible to do something for this condition in the way of diet, exercise, such as the patient can take, and massage, especially of the abdomen, but the benefit is slight. It seems to me not only necessary to diminish the weight of the uterus and increase the support of the pelvic outlet, but quite as necessary to obviate the dilating wedge, and at the same time obtain support at or near the pelvic brim capable of sustaining the abdominal contents and vaginal vault. How can this be done? It is easy enough to remove the wedge by hysterectomy. This I know is strongly objected to by some, on the ground that hysterectomy has proven a failure for the cure of this condition, and once the uterus is removed the prospects for benefit by anterior suspension are forever lost. These objections are valid. Hysterectomy alone has proven a failure; anterior suspension, however, has not proven more of a success. Nevertheless, we remove the wedge by hysterectomy and secure the severed stumps of the broad ligaments, the wherewith for the support, near the pelvic brim, necessary to sustain the abdominal contents and hold up the vagina and bladder.

Right here I would like to say a word in justification of the removal of the uterus and appendages. In practically all such cases as we are considering, the ovaries, uterus and tubes are in such a diseased condition as to be a decided detriment to the patient, and if in their proper positions would in many cases require removal. It is not always conservative to attempt to save diseased parts, for in many cases it renders subsequent operations necessary.

After removal of the uterus and appendages in the ordinary way, per vaginam, I draw down the broad ligaments and pass a ligature as near the pelvic wall as convenient, usually two or three inches beyond the severed end, passing these through the end of the ligament of the opposite side so that when drawn up they cause the ligaments to overlap two or three inches. The anterior and posterior flaps of peritoneum are then approximated and sutured, beneath which the broad ligaments are united, overlapping as stated, and sutured firmly together. Thus we have a strong bridge across the pelvis, strong enough when well united to support the abdominal contents, vagina, bladder and rectum. To this bridge the anterior and posterior walls of the vagina are fastened, thus bringing the bladder and rectum into position.

Whatever is necessary in the way of narrowing the vagina is then given attention, the pelvic floor restored, and a light packing placed in the vagina. When put to bed the patient's hips should be kept elevated for a week or ten days in order to relieve the pressure on the parts until they are well united. Three weeks is little enough time to keep the patient in the prone position, for if allowed to assume the erect posture before union is strong the parts will not hold. With good union we have the indications fulfilled and there will be no further prolapse.

I have now operated in this manner on over twenty cases and there has not been a single relapse. The photoengravure represents the condition in one of the first cases I did this operation upon. The patient had been an invalid, in bed most of the time, for two years. Now she is as well and strong as ever, never has any dragging or sagging of the parts, and can do as much work as any ordinary woman.

It is an easy matter to diagnose an elongated cervix as procidentia and by an amputation and operation on the vagina and perineum obtain a cure. In partial procidentia the same measure may give complete or partial relief, but my experience has been that the major part of the suffering, such as the backache, dragging pressure and pain, are only partially, if at all removed, and the patient complains of nearly as much discomfort as previously, which, considering the condition existing, is certainly nothing more than we should expect.

I would not have you gain the impression that I advocate hysterectomy in all cases of prolapse, or even in all cases of procidentia, but I believe there is a class of cases which nothing short of the proceedings I have described will give relief. Each patient must be more or less a law unto herself, however, and it requires a thorough and careful study of the case to decide upon the best treatment. There are probably but few conditions that require greater judgment in deciding upon the best measures of relief, in modifying details of operations than the one under consideration.

TRANSACTIONS.

CLINICAL SOCIETY OF THE UNIVERSITY OF MICHIGAN.

STATED MEETING, JUNE, 26, 1903.

THE PRESIDENT, *pro tempore*, WILLIAM F. BREAKEY, M. D., IN THE CHAIR.
REPORTED BY JOSHUA G. R. MANWARING, M. D., SECRETARY.

REPORTS OF CASES.

A CASE OF ACTINOMYCOSIS.

DOCTOR DARLING: I will read the student's history of the case I wish to present.

The man was admitted to the hospital on the 3d day of May, 1903. He is forty-one years of age, and comes here because of abscesses in the region of the inguinal glands. He is a farmer by occupation, has never used alcohol in any form, and does not smoke or chew. Since two months ago he has been restless and sleeps but little.. Regarding his family history, he knows nothing of his grandparents. His mother died of general debility at the age of sixty-three years. His father is living at the age of seventy-one, and enjoys good health. He has one sister, aged thirty-seven, fairly healthy. He had whooping-cough and inflammation of the bowels two years ago, but made a good recovery.

Patient's present affection began last December, when he noticed a swelling in the right inguinal region. There is a scar in the left inguinal region, where it has been lanced, a swelling having appeared there some time previously. Whether that was the beginning of the present pathologic condition, or whether it was an abscess due to some other cause, I am unable to say. The first abscess seemed to heal promptly after evacuation and the series of abscesses on the other side developed quite independently of this one, apparently. This swelling begins in the right inguinal region and extends in a continuous line from the pubes to the anterior superior spine. The swelling, which appeared on the left side, occurred three years ago, at least two years before the one which has just been described. The openings of the present abscesses yield a fine deep-colored discharge, associated with clots. The wounds were treated by irrigating twice a day and packing with iodoform gauze. The patient has never suffered any pain whatever except since pointing became manifest. He has had a number of abscesses of the scrotum.

On examination a phlegmonous condition was present, the surface was ulcerated with undermined edges, and the discharge was thick and creamy and dirty-red in color. There was no apparent involvement of the lymph glands. The patient appears well nourished and healthy, but is very restless and sleeps but little. The man is very easily frightened and worries a great deal about himself. His pulse was 126 at the time this examination was made, tension poor, and compression easy.

The operation consisted in opening the sinuses, and curetting, irrigating, and packing them with iodoform gauze. This scar which you see here on the left is the one that was made three years ago. The appearance of the scar and its location quite independently of the others would suggest that it was an independent process. When the patient entered the hospital I was led to think, from the appearance of the wound, that this was some unusual kind of infection. The scars were much larger than they are now, showing a passive hyperemia. They do not present the appearance usually seen in tubercular sinuses, the granulations are not pale, but display a very good color. The scrotum at that time was swollen considerably, there was a mixed infection, and a greater discharge during the first few weeks than we see here now. By draining thoroughly and washing frequently, this infection seemed to disappear and the wound showed signs of healing on the surfaces. You will notice that the upper part of this wound has apparently healed. You would think from close inspection of the surfaces that it is almost entirely healed, but if you were to insert a probe, you would find that these tissues, for quite a distance, are simply granulations. The process does not seem to pass along the layers of fascia, but rather to penetrate that structure and permeate the tissues. The skin resists the infection very well, but the edges underneath are undermined much the same as in tuberculosis, although they are better nourished than tubercular granulations, the blood-vessels being more numerous. The scrotum is in much the same condition. You will find that these sinuses connect with each other and also are surrounded by this same granulation tissue, presenting the same characteristic of which I have spoken. It was this peculiar appearance of the wound which led to the belief that we were dealing with some unusual infection and prompted this investigation. Mr. Breitenbach, who recorded this history, studied the condition from a bacteriologic standpoint, but had little opportunity to thoroughly perform the task before his graduation, and since that time Mr. Carhart has been attending the patient. Some of the tissue was sent to the Pathologic Laboratory, where the nature of the infection was discovered by Doctor Warthin, who has specimens of the tissues to show you and something to say regarding the pathologic condition.

DISCUSSION.

Doctor Warthin: The microscopic examination of the tissue that was sent to the Pathologic Laboratory showed that it consisted of granulation tissue, containing giant cells and purulent areas. In some parts of the sections there was also scar tissue. At first nothing specific was found. On further search we discovered throughout the granulation tissue small masses resembling the "Druse" of actinomyces. The specimens were stained with hematoxylin and eosin and these "Druse" appear as dark blue areas, which under the low power are finely granular and have a radial arrangement, radiating toward the periphery. In so far as the low power examination is concerned, one can say with perfect certainty, that we have to deal with an actinomyces. That does not necessarily mean an actinomyces bovis; that is, it does not mean that it is exactly the same species that produces actinomycosis in cattle. Under the high power, the resemblance to the actinomycetic "Druse" is carried out still more decidedly in that one can see the club-shaped rods. One can see that many of these rods project out between the neighboring cells. By using this hand microscope, one can see with the low power the darker periphery and the radical arrangement of the "Druse." I have placed under this microscope one of these "Druse" under the high power, showing the peripheral clubs. The lower power view is, however, much more satisfactory than the higher power. We are justified here in making the pathologic diagnosis of actinomyces. We cannot say that this is the same species found in cattle. Twenty-nine species or varieties of actinomyces have been described. Inasmuch as we are not sure of the botanical position of the fungus, whether it is to be classed with the streptothrix, polymorphous bacteria, or the hypomycestes, we cannot definitely assign a name to the species. It is probable that actinomycosis is not a disease entity, but only a diseased condition produced by a number of closely-related fungi. This has been very well shown by Howard, in the *Journal of Medical Research.* So, although we cannot at the present time assign this organism to a definite species, we can give the diagnosis of actinomycosis, and make that without any reserve. The patient, therefore, has actinomycosis of the skin, which is a relatively rare condition. Similar cases of actinomycosis of the skin of the abdomen have been reported. The disease usually occurs in man in the respiratory tract, infection taking place through the mouth. I have seen two cases in Vienna in which the infection was through the vagina, with metastatic growths in the uterus and in the liver. In these cases there was the peculiar greenish pus noticed by some observers. The number of cases altogether in the human being is not very large, so this case is very important.

The infection is supposed to be carried by some bit of vegetable material or wood. In a number of cases in the human being, it has been found to be a chaff of wheat or splinter of wood. The habitat outside of the body is supposed to be wood, grain, lower plants, et cetra, so that a chaff of wheat or bran or hay or straw containing the parasite might be worked into the skin through some superficial abrasion caused by friction of the clothing. The scars seen over the abdomen of the patient are undoubtedly scars resulting from older actinomycotic lesions. The progressive advancement of the disease followed by healing and cicatrization is common to the infection and is very well shown here. Self-healing of actinomycotic lesions may occur, and the prognosis in this case would be relatively favorable if the genitals were not involved, inasmuch as this involvement favors metastasis and extension to the peritonem.

AN INTRALIGAMENTOUS OVARIAN CYST: UTERUS SUBSEPTUS.

Doctor Reuben Peterson: This cast represents the first case I wish to speak of, a woman of thirty-one, whose previous history presents nothing of special interest. She noticed this swelling about eight months before she came to the hospital. At first it was about the size of an orange, starting on the left side of the abdomen. The tumor has given her pain at intervals, a rather uncommon condition in ovarian cysts, and led me, with other things, to think the growth was intraligamentous. You will notice the cast shows the characteristic appearance of intraligamentous cysts. It arises abruptly from the pubes and falls abruptly into the epigastrium, because it is bound down by the broad ligament. An interesting point in connection with this tumor is that the opposite tube contains pus, that is, we had pyosalpinx associated with an intraligamentous cyst. The tumor contained about one thousand cubic centimeters of a blackish fluid. This was withdrawn and the cyst enucleated in the ordinary way, cutting through the layers of the broad ligament and then peeling it out. There was considerable bleeding surface left. so I determined to remove the uterus and drain through the vigina. I am very glad that I decided to take out the uterus, because when the specimen was taken to the laboratory, it was found to be a uterus subseptus. There was a septum in the center dividing the cavity into two, beginning a short distance below the internal os, then extending a short distance upward. Then there was the ordinary cavity at the fundus. I have seen a number of these divided uteri, but never a case where there was a partial septum like this. The after history of the case is uneventful, and the patient will leave the hospital tomorrow.

MALIGNANT OVARIAN TERATOMA, WITH TWISTED PEDICLE AND ASCITES.

The second case that I would like to speak of also presents some interesting features. This was a woman twenty-six years of age, who came to the hospital June 5 for swelling and pain of the abdomen. She first noticed this abdominal swelling after the birth of her child three months ago. She did not notice it before her pregnancy, but thought she was considerably larger than she had been with her previous children, although she was not sure that there was any abnormality in the abdomen. She was pregnant about seven months before she had any pain. Then she noticed the abdominal pain shortly after eating. The abdomen has been increasing in size ever since the child was born. On entrance to the hospital she presented some interesting symptoms. The abdomen was enlarged symmetrically from the pubes up to the umbilicus and I could feel what appeared to be two tumors, one situated to the right and the other above and to the left. It was quite difficult, on account of the considerable ascitic accumulation, to distinguish the connections of these growths. As nearly as I could discern, they were free from the uterus. A few days after she entered the hospital the ascitic accumulation became so much greater and she suffered so much from dyspnea that it was necessary to tap her. Considerable fluid was removed and we had a better opportunity to examine the growth. Then I concluded that, instead of there being two tumors, there was one, and that this tumor was not connected with the uterus. Then came the question of diagnosis. We considered the possibility of ovarian fibroid on account of the ascitic accumulation and because uterine fibroid could be excluded. This tumor seemed hard and firm and quite movable. It was suggested by Doctor Manwaring that there might be a twisted pedicle. I told him that I thought not because of the lack of symptoms. In twist of the pedicle, the symptoms are usually acute and there is much more tenderness than existed in this case. Upon opening the abdomen, however, it was found that Doctor Manwaring was right and that there were two twists of the pedicle, not sufficient to shut off the blood supply, but enough, however, to cause local peritonitis about the growth, and the intestine and omentum were adherent to the top of it. It was removed with ease and the woman has done remarkably well since.

According to Doctor Warthin, the tumor presents many of the characteristics of a malignant teratoma.

A CASE OF CHRONIC GASTRIC ULCER, WITH PERFORATION INTO THE DUODENUM.

Doctor Prentiss B. Cleaves: The case I wish to present is that of a woman fifty years of age, an American by birth, married, and a housekeeper by occupation. She was admitted to the hospital on May 5, 1903, complaining of great weakness, loss of weight, belching, vomiting, and insomnia. The family history was entirely negative—no carcinoma, tuberculosis, nor any other disease of importance. Personal and menstrual history were negative. She had had two children, no sepsis, and no abortions. She passed the menopause at the age of forty.

Twenty-two years ago, the patient was ill, with vomiting of sour material after every meal, and belching of gas. This condition improved very much, but eleven years ago at the time of menopause, the affliction recurred, with frequent vomiting, which occurred without reference to meal time. On various occasions she would wake in the middle of the night and vomit two or three times. The vomitus had a bitter and sour taste, a disagreeable smell, and contained a great deal of mucus; also at times, some blood, which, her physician said, was due to the excessive straining. Such attacks of vomiting, lasting two or three weeks, recurred at intervals for about two years, but during the seven years until six months ago, the patient had been fairly free from vomiting, though troubled with belching and sour stomach.

About six months ago the patient was seized with pain in the left side of the abdomen, high up, of neuralgic character. This pain was relieved by pressure on a spot about two inches below the ensiform, a little to the left of the median line, where there was a great tenderness, however. She lost her appetite and vomited material similar to that described above, but containing no blood. There was no evidence of retention of food. She also had severe jaundice. Vomiting occurred one-half to three hours after eating. The pain was uninfluenced by eating. Constipation was severe, and finally when the bowels did move, large black masses were passed. Until about six weeks ago the patient was fed by means of a tube passed through the nose. The abdominal pain ceased about five months ago. Vomiting continued until three weeks ago.

Many years ago, the patient weighed one hundred and seventy-six pounds. Her usual weight is one hundred and twenty-five pounds, but on May 6, she weighed sixty-eight and one-half pounds. Her habits were very good. Her bowels were usually constipated, but recently there has been diarrhea. Appetite was good until ten years ago, since which time she has taken no potatoes, and little meat; no coffee nor tea. She formerly ate a great deal of hot bread.

At present she complains principally of sleeplessness; great weakness, so that she has been in bed for the past six months, and unable to raise herself for three months; twitching of the muscles; belching of gas, sour stomach and diminished appetite, which is entirely absent at the sight of food.

With such a history, one must consider as most probable, one of three conditions: gastric cancer, gastric ulcer, and chronic gastritis. In favor of the first, there is the age (fifty years); the great loss of weight and strength during the past six months; the dark stools; and the sudden onset, about six months ago, after a period of comparative health; frequent vomiting and dimished appetite. In favor of ulcer, there is the severe, localized pain in the epigastrium; dark stools; vomiting of blood (this occurred ten years ago); and tenderness in the epigastrium. In favor of chronic gastritis, chronicity, there having been vomiting and nausea at times, with much mucus present, and eructations for about ten years; vomiting independent of kind of food or time of eating.

On examination, the patient lies, a cachectic, emaciated, miserable looking individual, on the left side with the legs drawn up. Skeleton slender, arms can be encircled by the thumb and forefinger, the legs and thighs by the hand. Panniculus absent. Skin very sallow, mucous membranes pale. Conjunctival fat slightly increased, face somewhat sallow; joints of hip and knee somewhat fixed; cannot be moved without pain; no enlarged glands. Abdomen scaphoid, iliac bones prominent; pelvis tilted so that umbilicus is to left of median line. The abdomen is somewhat fuller to the left than right, due to position, and appearing as if viscera had fallen to that side. Skin harsh and scaly. Active peristalsis from left to right and up and down below umbilicus. On palpation, in region of umbilicus, there can be felt a band one and one-half inches broad, lying transversely, slipping under the fingers, not affected by respiration, and seeming like intestine. Inflation shows greater curvature of stomach two fingers below, lesser two fingers above the umbilicus. Nothing in the examination of the thorax to throw light on the case. On May 14, a hard, rounded, irregular mass in the median line, extending to the right and left toward the margin of the ribs, was felt, descending on deep breathing only a little. This was also felt on May 16. At this time patient had no complaint except sleeplessness and pain in the limbs; no vomiting, appetite good. On May 19 a mass was felt the size of a lima bean, one inch below the ensiform.

The stomach examinations, granose test meal, showed one hundred seventy-five to three hundred cubic centimeters, no long bacilli, few yeasts; hydrochloric acid ten to eighteen, total acid thirty-two to forty. During the time that the patient was in the hospital, she grew gradually weaker. She began to cought on May 19; she was too weak to raise sputum. On May 24 the urine, previously negative, showed well-marked diazo reaction. The patient died on May 26, 1903.

At the autopsy, which was conducted by Doctor Warthin, the heart showed brown atrophy. Lungs: the left was less voluminous than the right, and weighed nine hundred and seventy-six grammes (right weighing four hundred and sixteen grammes); left firm, almost airless. Fresh fibrinous pleurisy. On section, both lobes were found infiltrated, pus escaping from cut surface and small bronchioles; surface mottled, grayish to reddish, slightly granular; many small lighter spots over surface, yielding purulent exudate. Stains of pus, modified Gram's, show encapsulated diplococcus similar to pneumococcus, in almost pure culture. Right lung, vesicles distended, purulent exudate from bronchioles. Few old tubercles in pleura.

Stomach small, extends only two fingers below ribs in nipple line. In the lesser curvature, about three fingers above pylorus is a deep excoriated ulcer with overhanging edges. Floor covered with yellowish exudate. in the floor is a valve-like flap of mucous membrane resembling stomach mucosa, in the middle of which is a communication with the duodenum. This flap is entirely separate from and below the level of the stomach mucosa. In the duodenum, just below the pylorus is a small round polypoid mass, the size of a cherry. No distinct pedicle, rather broad base, covered with mucosa. On section this is homogenous, no alveolar structure, yields no cells on scraping. Lowest edge of ulcer four centimeters from pylorus; opposite edge six centimeters from esophageal opening; in duodenum opening thirty-two centimeters distant from pylorus. Microscopic section showed no carcinomatous change.

A CASE OF OBSTRUCTION OF THE BOWEL.

DOCTOR LOREE: A number of you saw this girl operated upon last Tuesday morning. The case is of special interest to those of us who saw her here last summer, as so many of the operative cases are not heard of after they leave the hospital; but the return of this patient affords an opportunity to examine an old field of operation.. Patient came to the hospital a year ago. She had been sick about ten days with vomiting and pain. After one day's illness she was able to be around for two days, when she was subjected to another seizure. The vomiting recurred and the pain became localized in the right side. Patient grew worse until she was brought to the hospital about ten days after the first attack, where she was operated upon for appendicitis. She was not a favorable patient for operation. Her temperature was about 101, pulse 130 to 140, and she had all the signs and symptoms of a person who was pretty badly poisoned. There never was a mass in the right side, and this is probably due to the fact that the appendix was found lying well in the pelvis. This class of cases very seldom show a mass on the right side and the only diagnostic signs were pain and tenderness on pressure. Pus was present. The patient was in the hospital about forty days at that time.

She was allowed to go home before the wound was entirely healed, but I saw her several times afterward. When she had been home for three weeks, the small sinus which had persisted closed over for two days, and I then noticed a small black speck, which proved to be a piece of the black silk ligature that was passed around the appendix. We heard nothing more of this patient until she came to the hospital last Tuesday.

A week ago yesterday she was taken sick early in the morning with very severe pains in the stomach region, colicky in nature. Later she grew better but that night she began to vomit and the pain became more localized in the right inguinal region. She was brought to the hospital last Tuesday, about a week after the attack, and was operated upon for intestinal obstruction. The obstruction was a general inflammatory thickening of the bowel. The small intestine did not leave the large at a right angle, but followed the course of the large bowel more or less and was becoming adherent thereto. The obstruction was near the junction and a perforation was found close to the obstruction. The patient at the time of operation was in a very poor condition and consequently time was a necessary element. It was probably the ideal place for anastomosis with the Murphy button and one was employed. There was no time for a McGraw ligature. At the time of operation, and when she came into the hospital, her pulse was 140 to 150 and her temperature registered 101°. Since the time of operation her pulse has gradually decreased until today it is 114; yesterday it was 128. The next day after the operation she began to have movements of the bowels. She has been getting a little nourishment, milk and beef-tea, and yesterday we administered calomel followed by salts. The wound was dressed at the time of operation with gauze carried down to where the Murphy button was placed and this gauze was removed twenty-four hours after the operation. There was some discharge but no fecal matter. Since the original piece of gauze drainage was taken out we have kept the wound open by means of rubber tubing.

The patient was transfused after the operation, and one of the alarming features about the case was that she did not respond to the transfusion at all, and from my experience here, when the heart does not respond the case is very unfavorable.

The case is interesting because of the fact that it has presented the complications of not only delayed operation for appendicitis but also delayed operation following obstruction.

DISCUSSION.

Doctor Darling: This case is one of great interest because of the length of time the obstruction had existed before operation. Most of the cases of intestinal obstruction are fatal unless operation is performed early, and especially so if there is fecal vomiting. In this case there was fecal vomiting and plenty of it two days before operation. I saw the patient in consultation with the attending physician and informed him that I thought she would die if she was not operated upon and would probably if the operation were performed. While I was present she vomited material which not only had fecal odor, but which contained formed feces. There was a question in this case about the passage of gas: whether air had been admitted into the lower bowel when giving enemas, or whether some of the gas had passed that point. Another matter of importance was the perforation. The small intestine was perforated, and there was also a beginning perforation in the colon, showing that if this patient could have been kept alive that there would have been a cure for the present; and also showing the possibility of a cure taking place by one damaged intestine opening into another with which it comes in contact. In this case we employed large quantities of salt solution for irrigation, and it was surprising to see the effect on the intestine. The bowel was greatly congested and fairly purple during the operation, but the hot salt solution had excellent effect, and one could see the color change, although I did not think that this was wholly attributable to the action on the heart. I thought it had some local effect on the intestine. Where it was perforated, fecal matter ran out into the abdominal cavity, and there were also signs of general peritonitis. In this case the washing with very hot salt solution had a favorable effect. Within the last two weeks I have had two cases of peritonitis with perforation, wherein there was pus in the abdominal cavity, and in both cases I employed gallons of hot salt solution, 120° to 130°, and by this thorough flushing I have been able to remove all the symptoms of infection. It is surprising to see how little pus was formed, even at the site where the abscess was opened. In one case which I opened, wherein the pelvis was full of pus, the patient has had no signs of general peritonitis worth mentioning after using this large quantity of hot salt solution. It is quite interesting to see how hot the intestine will bear this and how well the peritoneum seems to withstand the heat. I am satisfied that these cases, and this one in particular, were saved by the free use of hot salt solution because I have seen cases exactly like these die in a few hours after opening the abdomen. The anastomosis by the button was the only one to be considered at this time. The patient is not well yet, and may die of perforation or hemorrhage, but she looks as though she was destined to live.

ORIGINAL ABSTRACTS

MEDICINE.

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AND
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FETAL, CONGENITAL AND INFANTILE TYPHOID.

John Lovett Morse (*Medical News*, Volume LXXXIII, Number V) collects from the literature and critically reviews the cases of fetal, congenital and infantile typhoid.

A few undoubted cases of fetal typhoid prove beyond doubt that the typhoid bacillus can pass through the placenta, but perhaps this does not occur through the normal placenta. The Widal reaction does not prove the existence of fetal typhoid, as agglutinin may pass from the maternal to the fetal circulation. The child does not necessarily contract the disease when the mother is affected. When affected the fetus most often dies in utero, or, if born alive, dies soon of an acute cachexia without special characteristics. If it lives longer, it may develop some classical symptoms, and even recover.

The pathologic lesions in intrauterine and extrauterine typhoid vary, because of the fact that extrauterine typhoid is a secondary septicemia, slowly developing on a primary intestinal affection, while intrauterine typhoid is a septicemia from the start. There is no proof that the fetus can pass through the infection in utero and be born alive and well.

As to infantile typhoid, only thirty-two cases are reported in infants under two years of age in which the diagnosis was confirmed by the Widal reaction or cultures, or both. This number being so small, it is evident that the disease is uncommon or else unrecognizable because of nonresemblance to the type seen in older children and adults. In the first year of life the exposure to typhoid infection is, of course, less because of the manner of feeding, but in the second year this reason cannot hold good. Inasmuch as the symptoms in the cases collected were similar to those seen at other ages, it is probable that the future will show that the infrequency of typhoid in infancy is real and not apparent.

SURGERY.

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AND

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THE RADICAL CURE OF UMBILICAL HERNIA.

Doctor William J. Mayo, of Rochester, Minnesota, read a paper before the Section on Surgery and Anatomy at the fifty-fourth annual meeting of the American Association, on his continued experience in the vertical overlapping operation for the radical cure of umbilical hernia (*Journal of the American Medical Association*). He calls attention to the fact that the conditions favorable to the production of this form of hernia, as weakness of the abdominal muscles, rigidity of the ring and obesity of the patient, are not favorable to repair. The natural defect in all cases is the separation of the recti muscles above the level of the umbilicus. The muscle separation is greater in corpulent persons. The causation of hernia is due to the downward traction of the abdominal wall, the contents of the abdomen having a fixed point at the umbilicus. Continuous pressure at this point causes elongation of the abdomen and separation of the muscles. He has found that better results are secured from the treatment of this class of hernia by overlapping the tissues from above downward, than by the lateral lapping, the method so much in vogue. He has employed this method twenty-five times without a death, and with but one relapse. His method of procedure is to make a transverse elliptical incision around the umbilicus and hernia, clearing the aponeurotic structures for at least three inches from the neck of the sac. The coverings of the hernia are divided at the neck, exposing the contents. All adhesions are separated, and if the sac contains omentum it is ligated and removed with the sac. The peritoneal structures are closed with running sutures of catgut. An incision is then made through the abdominal structures one inch or less, transversely, and the aponeurotic structures separated from the entire surface to form two flaps. Mattress sutures of silk or some other firm material grasp the border of the lower flap, making the upper flap cover the lower until the hernial opening is entirely obliterated. The margin of the upper flap is then sutured to the structures below with catgut; the overlying tissues are then closed in the usual manner.

This method of operation has not only found success at the hands of the writer, but the paper was discussed by such men as Ochsner, Murphy, and Ferguson, all of Chicago.

Doctor Ochsner stated that the modern text-books on surgery claim for the radical cure of umbilical hernia a large mortality, and a large proportion of recurrences. The large mortality, he believes, was due to the unnecessary traumatism caused by the operation, failure sometimes due to the fact that the principles underlying the operation were not understood. The advantage of the method used by Doctor Mayo, and followed by others, is not only due to the doubling of the fascia layers, but by taking advantage of the deformity which exists in the lengthening of the distance from the sternum to the pubes.

Doctor Murphy lost a patient from pulmonary edema, following the lateral operation. He believes that the method of operating was largely responsible for this cause of death, as a latteral operation interferes with diaphragmatic breathing if there is sufficient irritation. The operation described does not interfere with breathing in the least.

Doctor Ferguson believed that the operation is a good one, but that it was not applicable in all cases. The surgeon should perform the operation which permits the best use of material at hand for preventing the return of hernia. He believes that the bringing together of the recti muscles is of immense advantage when they are not too far separated; that the fat in the abdominal wall when excessive, should always be removed. This point, however, may apply to Mayo's operation as well as others.

Eastern surgeons do not appear to have taken part in this discussion. Doctor Mayo disclaims all credit for the devising of this operation, and states that he believes that the principles may have been known to surgeons from the time of Hippocrates. C. C. D.

OPHTHALMOLOGY.

By WALTER ROBERT PARKER, B. S., M. D., Detroit, Michigan.
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PARALYSIS OF CONVERGENCE AND DIVERGENCE WITH PARALYSIS OF THE SUPERIOR RECTUS.

Doctor Duane (*Archives of Ophthalmology,* May, 1903) reports a case with the following history:

"Patient, two years old, was suddenly attacked, while walking on the street, with diplopia, both vertical and lateral. She was examined then and righ hyperphoria 9° was found. One year later tenotomy of right superior rectus, reducing hyperphoria to 4°, then tenotomy of the left inferior rectus, producing marked overcorrection. This it was attempted to remedy by tenotomy of the left superior rectus, and subsequently a number of operations were done. She was also exercised with prisms and has worn, prisms and various glasses designed to correct the refraction."

When he first saw the case, ten months ago, she had diplopia in every direction of the field of fixation and marked vertigo, with the objective evidences of marked but not complete paralysis of the left superior rectus and a less marked paresis (evidently postoperative) of the right superior and the left inferior recti, and nearly complete paralysis of convergence and divergence, as shown by the following signs. Approximate balance for distance; insuperable crossed diplopia, beginning at six feet from the eyes, and increasing steadily in amount as the object of fixation was carried nearer the eyes; inability to overcome prisms of even one degree either base in or base out; inability to converge even to the slightest degree on a test object carried toward the eyes: absence of pupillary convergence-reaction with retained light-reaction; all this being combined with a perfectly normal excursion of either eye, inward or outward, in performing associated parallel movements.

"To relieve the vertical diplopia a graduated tenotomy of the right inferior rectus was done, and later an advancement of the inferior rectus. As a result of these operations the point of equilibrium was shifted from far distance to sixteen inches with temporary relief of the vertical diplopia. Two months later the right hyperphoria amounted to fifteen or sixteen degrees, due to increase in the paralysis of the left superior rectus. There were no evidences or organic nervous disease. Doctor Duane thinks the original lesion was a paralysis of the left superior rectus, the insufficiencies found in the other vertical muscles being due to operations. Ten years after it first developed, this primary paresis suddenly and without cause increased and became total."

In conclusion he states the facts illustrated by this case as follows:

"(1) The unwisdom of attempting to correct a deviation (especially a hyperphoria) due to a paresis of one muscle by a tenotomy of its antagonist. The result is nearly always disastrous. Here an initial tenotomy of the left superior rectus was proper under the circumstances, but to supplement this by a tenotomy of the left inferior rectus was a serious error.

"(2) The care that has to be exercised in handling these paretic affections which after remaining stationary, it may be for years, suddenly and without cause increase or diminish.

"(3) In paralysis of an elevator, the increase of a diplopia in looking to the right or left is fully as great as the increase in looking straight up, and is of more significance for the diagnosis.

"(4) The contraction of the pupil taking place when the attention is directed to a near object is a convergence-reaction and not an accommodative-reaction. In this, as in similar cases, it was only when the patient converged, not simply when she accommodated, that the pupil contracted.

"(5) The correction of a complete convergence-paralysis by operation is unsatisfactory, about as much so, indeed, as the correction of a complete paralysis of a muscle by advancement of it."

[This is a most instructive case, and we gladly add our plea for noninterference in cases of paralysis.—W. R. P.]

EDITORIAL COMMENT.

EFFECTS OF ELECTRIC CURRENTS AND SO-CALLED LIGHT RAYS ON BACTERIA.

THE declaration made in a modern text-book that continuous electric currents are bactericidal is one that requires considerable modification inasmuch as it is capable of causing a vast deal of mischief. While the statement may be partially correct, various observers have demonstrated that degree or quantity is a factor which claims recognition in an estimate to determine the bactericidal power of the electric current.

In 1901 Zeit conducted some very thorough experiments by which he demonstrated that bacteria of low thermal death rate were killed by exposure to currents of from two hundred sixty to three hundred twenty milliamperes for ten minutes, but that a current of forty-eight milliamperes has no bactericidal effect, even if continued for two or three hours. On the other hand, currents of one hundred milliamperes will kill nonresisting bacteria "by the production of electrolytic germicidal products" if continued for seventy-five minutes.

Electrodes are rarely sterilized between employments in routine practice; indeed the construction of these appliances is usually such that the only reliable method of sterilization—boiling and steam under pressure—cannot be utilized. In genitourinary work the most essential precaution is to prevent the introduction of septic material into the genitourinary tract. Currents of the strength mentioned are certainly seldom, if ever, applied to the region designated, as only a few milliamperes are required to disrupt a stricture. The irritation produced by electric currents constitutes a focus for infection, which is almost certain to occur if the electrode is not aseptic. Happily this method of treatment is fast being relegated to oblivion.

"The continuous current produced by polarizing electrodes and the exclusion of the effects of ions is neither bactericidal nor antiseptic." Tesla currents also prove negative as regards germicidal properties "when passed around a bacterial suspension within a solinoid." Ozone, when brought in contact in sufficient quantity, destroys bacterial life. The amount necessary to cause death may be obtained from high-frequency coils or from so-called brush discharges. The *x*-rays will kill many varieties of bacteria in plate cultures, providing the exposures are continued twenty to thirty minutes. Ultraviolet rays, as is now quite well known, are bactericidal. In the treatment of lupus vulgaris, according to the specifications of Finsen, the patient is subjected to ultraviolet rays for an hour and ten minutes, on successive days, until an apparent cure is effected. The patient is requested to report any manifestations of recurrence of the condition, and the claim is maintained that only one or two per cent of six hundred cases of lupus vulgaris treated at Copenhagen have resulted in failure, the greater number of which were attributable to faulty treatment.

CONTEMPORARY.

NONSECTARIAN MEDICINE.

[COLUMBUS MEDICAL JOURNAL.]

SECTARIANISM in medicine is founded in selfishness and commercialism. It is sadly out of harmony with science and results in wasted energy, dissociation and retarded progress in art. It is a stumbling block to the science and art of medicine.

The goal of medical science is truth, and the application of truth to the prevention and cure of disease. But truth is not divisible into schools, and its application to the cure of disease should not be made the basis of sects. To the physician all known truth should be available, all plausible theories should be his to prove. No dogma should fetter his choices, no school should select his remedies, no sect determine his methods.

It is this realization that sectarianism is restrictive rather than helpful, that it divides and weakens, where union and strength are needed, that has made the great majority of physicians in all ages desire a united profession. They have sought to avoid the use of any term that would imply a school or sect. Allopathy is an erroneous designation given to the regular system of medicine and surgery, not by those to whom it is supposed to apply, but by others as an anonym to the term they selected for themselves.

The right to select remedies and methods with absolute freedom is so generally recognized by all the so-called schools that sects are sects now only in name. Surgery is alike in all; dietetics and nursing know no school. Homeopathy no longer pretends to administer infinitesimal doses of inversely potentialized medicines, expecting them to produce symptoms like those of the disease treated; eclectics no longer assume to have a monopoly of wisdom in the selection of therapeutic remedies, and physiomedicals can boast of no useful information that may not be known by all. Then why should we not have a united profession? Many believe that we may have an undivided profession and have declared in favor of union by the simple abandonment of sectarian names. These designations have lost their original meaning, and are retained presumably for some supposed advantage in the proclamation which they make to the public. The constitution of the reorganized state and county societies wisely provides that any reputable physician who will agree to practice nonsectarian medicine shall be eligible to membership in these societies and thereby in the American Medical Association. This has raised the question as to what is implied in the practice of nonsectarian medicine. It is the practice of medicine and surgery without proclaiming to the public that such practice is based upon any exclusive method or system. Truth as one sees it is to be the light, judgment as now to be the guide. The only restriction being that one is to refrain from using a sectarian designation which at best serves only to hold out a claim to the public that one has some remedy or method not possessed by our confreres. Not that we must change our methods of practice, but that we are to refrain from advertising them. The following statement expresses the meaning: "No physician who indicates to the public that his practice is based on a sectarian system of medicine shall be entitled to professional fellowship or recognition in medical bodies."

And what physician who has in that honored title a claim on all medical knowledge, and freedom of all methods, could desire a circumscribing designation which would give him at best only an undue advantage over his professional brother?

If a physician is not to indicate to the public that his practice is based on a sectarian system, he should cancel sectarian names from his sign and from the title of his medical societies, for they can serve no good purpose there, and are certain to mislead the public.

MEDICAL NEWS.

OBITUARY.

Doctor Donald Maclean relinquished temporal life at his home in Detroit July 24, 1903, in the sixty-fourth year of his age, after an illness of two weeks with gastroenteritis. The doctor was a native of Canada, having been born in Seymour, Ontario, December 4, 1839, of

Scotch parentage. When Donald had reached the age of six years he was sent to Edinburgh to enter school, and remained abroad until he attained his twelfth year, at which time he returned to the land of his birth and studied in the schools of Cobourg and Belleville, entering the Queen's College at Kingston in 1855, where he was a student for two years. Having elected a medical career he again crossed the Atlantic in 1858 and matriculated in the Royal College of Surgeons of Edinburgh, from which institution he obtained the degree of M. B., C. M., and licentiate four years later. The civil conflict was now waging and in 1863 the doctor returned to America and embarked in the practice of his chosen specialty as assistant surgeon in the volunteer army, where he remained one year, serving in the hospitals at Saint Louis, Louisville, Harrisburg, and New Albany. In 1864 he accepted the professorship of clinical surgery in the Royal College of Physicians and Surgeons of Kingston, which chair he occupied for a period of five years, being then obliged to resign on account of ill health. After devoting three years to rest and study in Edinburgh he was appointed professor of surgery in the University of Michigan, a position which he filled for seventeen years. In 1889, owing to irreconcilable differences with the regents concerning the transfer of the clinical feature of the medical course to Detroit—a project which enlisted the fervent advocacy of the doctor—he resigned his professorship in the department and entered private practice in the city of his demise, where he enjoyed a large clientele until within a few years, when abridgement of labor was necessitated by physical debility. Doctor Maclean was the recipient of professional honors galore. He swung the gavel as president of the Washtenaw County (Ann Arbor) Medical Society, the Detroit Medical and Library Association, the Michigan State Medical Society, and the American Medical Association. He held the surgeoncy-in-chief of the Michigan Central and the Grand Trunk railways, besides being consulting surgeon to Harper Hospital and the Children's Free Hospital in Detroit. He was a Fellow of the Royal College of Physicians, London, and a member of the Royal College of Surgeons, and of the Ohio and New York state medical societies. He received a commission as major-surgeon in charge of a division during the Spanish-American war, and was assigned to duty at Old Point Comfort, Virginia. In 1893 the Queen's University conferred upon him the degree of LL. D. He was the editor of the American edition of "Syme's Surgery," and a frequent contributor to current medical literature, many productions from his facile pen having appeared in this journal during the past quarter century. Doctor Maclean was a genial gentleman, an ethical member of the medical fraternity, and a surgeon of wide repute.

MINOR INTELLIGENCE.

According to estimate forty thousand people succumb annually to tuberculosis in England and Wales. More than one-fourth of the deaths occur in persons between the ages of fifteen and twenty-five.

THE authorities of the Presbyterian Hospital in New York City will erect a six-story home for nurses on East Seventy-sixth street. The structure is estimated to cost about three hundred thousand dollars.

DOCTOR ORPHEUS EVERTS, medical director of the Cincinnati Sanitarium for the past twenty-four years, died on the nineteenth instant. His death was the result of a lingering illness, due to gradual exhaustion of the centers of organic life. Doctor B. A. Williams, who has been connected with the institution, will accede to the medical directorship.

MALARIA is one of the chief causes of death in Italy. During the year 1899 more than ten thousand persons succumbed to this disease. In 1887 twenty thousand and thirty-three, or over two and five hundredths per cent of the deaths were caused by malaria. Since that year, however, there has been a gradual decrease in the death rate from this cause.

THE decrease in mortality from smallpox in the United States is shown by the following figures: Between December, 1902, and May, 1903, eighteen thousand seven hundred thirty-five cases and six hundred seventeen deaths were reported, while during the same period of the preceding year over thirty-four thousand cases and one thousand fifty-three deaths were reported.

FIRE recently destroyed the largest of a group of buildings constituting an isolation hospital at Orange, New Jersey. Residents in the vicinity of the institution objected strenuously to the site selected for isolation purposes two years ago, and consequently the idea prevails that the fire was of incendiary origin. The buildings were to have been removed shortly to the Orange poor farm.

VIRGINIA has a Board of Examiners for Professional Nurses. Governor Montague, in accordance with a recent act of the legislature, has appointed the following women to constitute the first board: Mrs. W. A. Glasgow, Roanoke, one year; Miss Leah DeLancey, Norfolk, two years; Miss M. L. Watkins, Richmond, three years; Miss M. J. Minor, Richmond, four years, and Miss S. H. Cabanniss, Richmond, five years

A VIENNESE physician reports the case of a patient who possesses a musical heart. Two notes are perceptible, are described as monotonous, but have a certain charm, and are sufficiently marked to be heard quite a distance. A number of years ago an article was published in this journal detailing the case of a man with a musical anus. He traveled through the country giving exhibitions of his ability to imitate certain musical instruments and emit various popular melodies.

STATISTICS disclose that thirty-four thousand eight hundred fifty-five deaths occurred in New York City during the first six months of 1903. This represents a yearly death rate of 18.67 per cent, while during the first six months of 1902 thirty-five thousand four hundred ninety-one deaths were reported, which represents an annual death rate of 19.54 per cent. The birth rate increased from forty thousand nine hundred thirty-two during the first half of 1902 to forty-six thousand four hundred eight during the first half of 1903.

THE ambulance car is an innovation which a German railway company has decided to introduce. Specially constructed cars, equipped with surgical appliances, operating tables, et cetera, will be maintained at the principal stations, and physicians will be employed to occupy the cars and render prmopt aid to the injured.

PLAGUE is still causing death in Manila notwithstanding the Board of Health is exercising every precaution to check its spread. The cargoes of all vessels entering and leaving this port are fumigated for the purpose of killing rats and vermin, which are thought to be the cause of the infection. A bonus of five cents is paid for every rat delivered to the health department.

THE Association for the Relief and Control of Tuberculosis is the name of an organization recently established in Boston, the principal object of which is to study in detail the "relations between tuberculosis and the general conditions of life." It is estimated that there are three thousand six hundred residents at the Hub who are afflicted with tuberculosis in its various stages, and that about one thousand two hundred succumb to the disease each year.

DOCTOR HOWARD A. KELLY, of Baltimore, has recently achieved additional fame by election to the honorary presidency of the Glasgow Obstetric and Gynecologic Society. "The History of Appendicitis in Great Britain" was the subject of his presidential address delivered on the 17th ultimo in Glasgow. According to the *British Medical Journal*, "The address was interesting and racy, and was evidently meant as a compliment to British physicians and surgeons. Needless to say, it was enthusiastically received."

THE American Academy of Medicine elected the following officers for the ensuing year at its recent meeting, which was held in Washington, District of Columbia, May 11 and 12: President, Doctor John B. Roberts, Philadelphia; vicepresidents, Doctors Thomas D. Davis, Pittsburg; J. H. McBride, Pasadena, California; James T. Searcy, Tuscaloosa, Alabama, and S. A. Knopf, New York; secretary, Doctor Charles McIntire, Easton, Pennsylvania; assistant secretary, Doctor A. R. Craig, Columbia, Pennsylvania; treasurer, Doctor John E. A. Green, Easton, Pennsylvania. The next meeting will be held at Atlantic City, New Jersey, June 11 to 13, 1904.

DOCTOR JUDSON DALAND, in a paper read before the Philadelphia County Medical Society, states that with the exception of Yezo all the Japanese islands contain leprous subjects. Estimate places the number of cases at no less than fifty thousand, and the annual increase of the disease is alarming, although the natives appear to realize its deadly nature. Marriage among lepers is prohibited by law and nurses afflicted with the malady are not permitted to attend healthy children. Tokyo has two private leper hospitals, and for the past fifty years a like institution has been situate in Gotemba, at the foot of Fujiyama. The disease principally affects the poorer classes, but many cases have been reported among the wealthy.

TROUSSEAU, in a report to the Ophthalmologic Society of Paris, asserts that the number of blind in France is 31,966, or a proportion of eight to every ten thousand persons.

THROUGH the generosity of Nathan Straus, of New York, who donated to Philadelphia a Pasteurization plant, that city can now supply modified milk to children of the poorer classes. The plant will be continued through public contributions and the milk will be purified under the direction of the Philadelphia Pediatric Society.

RECENT medical visitors to the United States have been the following: Professor C. A. Ewald, of Berlin, Professor von Mikulicz-Radecki, of Breslau; Professor Hans Kehr, of Halberstadt; Professor Hermann Tillmanns, of Leipzig; Doctor Moynihan, of Leeds, England; Professor Dana, of Montreal; and Doctor Luc, of Paris.

PROFESSOR MARAGLIANO claims to have produced a serum that will render the human family immune to tuberculosis. The finished product is the result of more than thirty years of experimental study, and immunity is accomplished by vaccination, as in smallpox, a minute quantity of the serum being introduced beneath the skin of the arm. This procedure is followed, according to report, by a circumscribed tuberculous sore, accompanied with slight fever, which reaction is said to fortify the system against the destructive tubercle bacillus!

THE Tenement House Department of New York City has expended over thirty million dollars during the years 1902-3 in constructing tenement houses. The buildings have been erected in compliance with the new law which prohibits dark rooms, and are equipped with fireproof stairs, and toilet accommodations for each apartment. More than eighty per cent of the dwellings are also supplied with baths. Before offering the houses for occupancy the owners must obtain a certificate from the authorities to the effect that the legal requirements regarding construction have been fulfilled.

RECENT LITERATURE.

REVIEWS.

THE WORK OF THE DIGESTIVE GLANDS.*

THIS is the title of a little book that contains one hundred eighty-six pages of the most valuable knowledge of the physiology of digestion that has been published in book form during the past decade. The author and his able corps of assistants, as well as his well-equipped laboratory for experimental research, have long since become famous. The original work was published in the Russian language in 1897, and was soon followed by the German edition translated by Doctor

Walther. English-speaking physicians will welcome the present edition, translated from the German by the well-known physiologist, Doctor W. H. Thompson, of Trinity College, Dublin. This edition includes the later work of Pawlow on "The Physiology of the Bile, Succus Entericus, and Salivary Secretion, together with more recent notes supplied by the author. The translation is certainly all that could be desired.

The work, though eminently scientific in every detail, is so plainly written that the beginner cannot but understand it. Physicians and teachers interested in the physiology of digestion cannot afford to be without the knowledge this book contains. The subject matter is divided as follows, into nine lectures:

(1) A general survey of the subject—methods.

(2) The work of the glands during digestion.

(3) The centrifugal (efferent) nerves of the gastric glands and of the pancreas.

(4) General scheme of an innervation apparatus; the work of the nervous apparatus of the salivary glands; appetite the first and most potent exciter of the gastric secretion.

(5) Period of occurrence and importance of the psychic or appetite juice in the secretory work of the stomach; the inefficiency of mechanical stimulation of the nervous apparatus of the gastric glands.

(6) The chemical stimuli of the nervous mechanism of the gastric glands.

(7) The normal excitants of the nervous mechanism of the pancreas.

(8) Physiologic action and the teaching of instinct.

(9) Later researches.

The author's method of experimentation on dogs has rendered the study of the physiologic processes of digestion possible, and has enabled us to solve many problems that have remained obscure for years. The style of the book is such that it is delightful to read. It is unquestionably one of the masterpieces of the present age.

*By Doctor J. P. Pawlow. Charles Griffin & Company, London.

WOLF'S PHYSIOLOGIC CHEMISTRY.*

THIS little work is designed to afford students and practicians of medicine a guide to the further study of physiologic chemistry. It may well be styled elementary physiologic chemistry. While it does not go into an exhaustive description of physiologic processes and methods of examination it contains the knowledge that is absolutely essential to the general practician, and will prepare him for more advanced work.

The first part of the work is devoted to simple laboratory experiments, the last part to the clinical application of the various methods described. The chapters on urine examination are well written and illustrated. Only the more important tests are given and these have been well chosen. The chapter on the examination of the stomach contents might have been more complete, but even here a quite satisfactory idea of the changes occuring in the gastric secretions may be obtained. Methods for testing the peptic value are given, but the description ends after the incubator is reached, in other words, the end reaction of the test is not described. Aside from a few shortcomings, which are always noticeable in first editions, the book has many features to recommend it.

*A Laboratory Handbook of Physiologic Chemistry and Urine Examination. By Charles G. L. Wolf, M. D., Instructor in Physiologic Chemistry in Cornell University Medical College, New York. 12mo volume of 190 pages, fully illustrated. Cloth $1.25 net. Philadelphia and London: W. B. Saunders & Company.

EPITOME OF MEDICAL JURISPRUDENCE.*

This is the title of a little book designed as a manual for students and practicians. It is intended only as a brief compendium of the facts of legal medicine, with which every physician should be acquainted. Because of its compactness it enables one to find the desired knowledge on medicolegal subjects in a very few minutes. Thus the work will appeal to the busy physician.

*A Manual for Students and Practicians. By E. W. Dwight, M. D., Instructor in Legal Medicine in Harvard University. In one 12mo volume of 249 pages. Cloth, $1.00, net. Lea's Series of Medical Epitomes. Lea Brothers & Company, Publishers, Philadelphia and New York, 1903.

THE PATHOLOGY AND THERAPY OF DISORDERS OF METABOLISM AND NUTRITION.*

The publishers are to be congratulated for giving to the American profession translations of these most valuable essays by one whose work on disorders of metabolism and nutrition, because of its value, is known and quoted by physicians in all lands. It is the object of the author and of the publishers to have these monographs appear as nearly simultaneously in this country and Germany as possible.

The first of the series has to do with the subject of obesity, which is considered fully under the following divisions: I.—Simple obesity in otherwise healthy subjects; advanced, medium, and slight degrees of obesity. II.—Complications with other diseases; circulatory, renal, and pulmonary systems, rheumatism, gout, other diseases of locomotion, diseases of the nervous system and diabetes mellitus.

These volumes are neatly gotten up and are of low price. They should be in the hands of every physician. The author's name is all that is required to recommend them.

*Part I.—Obesity. By Professor Carl von Noorden. E. B. Treat & Company, New York.

The Physician and Surgeon

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ORIGINAL ARTICLES.

MEMOIRS.

LIGHT AND INVISIBLE RAYS EMPLOYED IN MEDICAL PRACTICE CONSIDERED FROM A PHYSICAL STANDPOINT.

BY VERNON J. WILLEY, A. M., ANN ARBOR, MICHIGAN.
INSTRUCTOR IN ELECTROTHERAPEUTICS IN THE UNIVERSITY OF MICHIGAN.

IF we admit a beam of sunlight through a small hole or a narrow slit into a darkened room, we shall have a colorless image of the sun formed on the floor or wall; but if a triangular glass prism be placed in the path of the light, the light will be refracted, and a rainbow-colored band will be formed, with red at one end, followed by orange, yellow, green, blue, indigo, and violet—the visible solar spectrum. This shows that white light is made up of an infinite number of different colored rays, differing in refrangibility, the red being the least, and the violet most, refrangible. This separation of the colors composing the sun's light is commonly referred to as the analysis of white light.

It would be wrong to infer that these rays are all the rays coming from the sun. More delicate methods show us rays of still less refrangibility, infrared rays, invisible, but rays which may be studied by their heating or colorescent, properties. Strictly speaking, colorescence is the rendering visible of the infrared waves, which are long heat waves and must be converted or transformed into waves sufficiently short to affect the eye. This may be demonstrated by concentrating the non-luminous infrared radiations by means of a condensing lens at the focus of which a piece of platinum foil is placed. In this way the invisible infrared radiations of longer period than those which excite vision, may be made to give visible effects through heating the platinum to incandescence.

Again, a glass prism cuts off, or absorbs the rays of greater refrangibility than the violet, and were we to substitute a quartz for the glass prism, we would obtain rays of greater refrangibility, ultraviolet rays, also invisible, but which make themselves known by their chemical and fluorescent effects.

According to the generally accepted theory all the radiations are transmitted to us from the sun, or other luminous body, through an imponderable and highly elastic medium, termed the ether, which exists everywhere in space, and which transmits all radiant energy by means of waves, not of condensation and rarefaction, as the air transmits sound, but waves which are transverse to the line of propagation, something like a wave might be transmitted along a rope. This turbulent fluid, the ether, is ever busy transmitting radiations of an infinite variety of wave lengths, varying from those which are hundreds of meters in length, down to those which are less than one ten-thousandth of a millimeter, or one-tenth of a micron (micron = .001 millimeter). These waves are all transmitted with the same velocity, the velocity of light, about one hundred eighty-six thousand miles, or three hundred thousand kilometers, per second.

The following diagram is given to indicate the position of the optical, actinic, or chemically active rays, together with the infrared, and the electromagnetic ether waves. On the extreme right of the diagram Roentgen rays are given a theoretical position, together with a possible guess at their wave length:

NONLUMINOUS RAYS		OPTICAL OR LUMINOUS RAYS								NONLUMINOUS RAYS
Electromagnetic Waves	Infrared Heat Rays	Red	Orange	Yellow	Green	Blue	Indigo	Violet	Ultraviolet	Ultra-Ultraviolet or X-Rays
Some meters in length	18 microns	.7	.6	.58	.52	.5	.44	.38	.2-.1	.014 microns (?)
		Wave lengths in microns								
		Chemically Active Rays								

The question of employing light therapeutically, at once calls for the methods of isolating a certain color or family of waves. Red light has been used to prevent pitting, in smallpox, possibly from its being least active, chemically, of any of the waves of the visible spectrum. Red hangings, or red glass may be used for this purpose, to cut off or absorb the more chemically active waves of the sun's light. These rays are feebly active chemically, however, and prolonged exposure of a sensitive plate or film will yield an image, or result in fogginess on development.

The terms "chemical" waves, and "actinic," are nowadays so frequently used, and so often without discriminating accuracy, that it may be well to call attention to their meaning. It is a pretty well-known fact that when hydrogen and chlorin are brought together in the free state they will rapidly combine to form hydrochloric acid, if exposed to sunlight, and it has been found that combination is much more readily brought about by the blue-violet rays, with wave lengths of, say, 0.48 to 0.40 micron, than with the red-yellow rays of wave lengths, 0.75 to 0.58 micron. The blue-violet rays were, therefore, termed "chemical," or "actinic" rays. In the early days of photography, when iodid of silver-collodion plates were in use, it was found that only the blue-violet waves were capable of affecting the plate with an exposure of ordinary length. Therefore, these rays were termed "actinic." The same is very largely true of the ordinary bromid of silver dry plate of the present day, yet it is possible to prepare plates which are very sensitive to both yellow and red rays. All the visible rays are, therefore, in a certain sense, actinic, and all are chemically active. So are ultraviolet rays, Becquerel rays, radium rays and x-rays.

A yellow screen is often used with the bromid of silver dry plate in photography, especially in obtaining color values, photographing flowers, obtaining cloud effects, et cetera. The yellow screen acts to cut off or absorb some of the strongly actinic blue and violet rays, and allow their less strenuous neighbors time to impress their autographs upon the sensitive film.

Colored screens do not, therefore, transmit homogenous light, or light of but one wave length, although they may transmit practically all of the waves which produce the color of the screen; yet they also transmit some immediately above and some below, that is, they do not wholly stop or absorb those waves which are somewhat longer, or somewhat shorter, than the waves giving rise to the color of the screen. Blue glass, for example, transmits more actinic rays than glass of any other color, since it transmits not only the blue light but some green, and quite a large percentage of indigo and violet, as can be shown by spectroscopic analysis of the light so transmitted. For this reason a sensitive plate, properly chosen, or a sensitive printing-out paper, shows quicker results under a blue glass than under a violet glass, even though violet light is just as active chemically. The blue glass simply transmits more light than the violet glass, which cuts out a large part of the blue rays.

It would seem sensible, therefore, if we wished to employ the rays therapeutically which are most actinic, and cut off a large percentage of the heat rays, feebly actinic, or waves of longer wave length than the blue-violet waves, to pass the sun's rays through blue glass. Now the fact should be emphasized right here, that *in such a case we would not be employing ultraviolet "light"* therapeutically. Nò ultraviolet radiations are transmitted through glass screens or lenses of ordinary thickness. It has been proven by experiment, again and again, that an ordinary window glass will cut off practically all of the ultraviolet waves; their fluorescent and actinic effects instantly cease when an ordinary window pane is placed in their path. Even glass of the thickness of an ordinary test-tube or incandescent lamp bulb cuts off practically all of these invisible waves. Moreover, the sun's light is exceedingly poor in ultraviolet rays, since most of these waves are absorbed in their transmission through the solar or the terrestrial atmosphere, or else are not emitted by the sun at all. Ultraviolet radiations are best obtained from artificial sources of light, and best transmitted through quartz lenses.

The physician is to be warned against purchasing any so-called ultraviolet "lamps," in which the source of light is an incandescent lamp, however powerful, or an arc lamp in which the light is transmitted through glass lenses. There may be an abundance of actinic light, and good results may follow their use, but the results are certainly not due to ultraviolet radiations.

The ordinary low tension arc lamp has been employed as a source of ultraviolet radiations, the light being passed through a ray filter of ammonio-sulphate of copper to absorb the longer wave lengths and to absorb the heat. A suitable cooling apparatus usually accompanies this lamp, and although cumbersome and expensive, it has given good results. Many modifications of the apparatus used by Finsen are on the market, and are true ultraviolet "lamps."

The modification used by Görl, of Erlangen, which employs a high-tension, high-frequency arc, is much more convenient to handle, requires no cooling apparatus, is simpler of construction, and much cheaper to operate. This "lamp" being comparatively new has, of course, not been used to anything like the extent that the Finsen and its modifications have, but the results obtained appear to have been equally as good as with the low-tension arc, and with vastly less inconvenience. This "lamp" has two connecting cords, leading from a Thompson inductorium, a Tesla high-tension, high-frequency transformer, or the outer coatings of the Leyden jars on a static machine, to four spark or arc gaps, employing either aluminum or iron electrodes, incased in a hard rubber tube, with a quartz lens compressor. That the ultraviolet radiations from this "lamp" are abundant can readily be demonstrated by any of the methods given further on.

Since ultraviolet rays are invisible, and we know of their existence only by their fluorescent and chemical effects, it is well to have at hand a convenient test by means of which their absence or existence may be ascertained. If a gold-leaf electroscope be charged negatively the ultraviolet rays will discharge it; if it be charged positively it will not be affected. A more convenient test for these rays is by the greenish-yellow fluorescence of the mineral, willemite; this is a silicate of zinc ($ZnSiO_4$). If, when testing for ultraviolet rays, the fluorescence is obtained, and a thin piece of glass, such as an ordinary watch-glass, be interposed between the rays and the mineral, the fluorescence instantly ceases. A quartz plate similarly interposed does not stop the fluorescence. *X*-rays cause similar fluorescence in willemite, but in this case the watch-glass only slightly diminishes the fluorescence.

A convenient method of testing the efficiency of an ultraviolet "lamp" is to place the quartz compressor in contact with a piece of sensitized printing-out paper, probably solio, and turn on the current for a couple of minutes. The effect produced is, of course, now due not to ultraviolet rays alone, but to the combined action of these rays and the visible light of the lamp. But the part played by the ultraviolet rays in darkening the paper may be ascertained by a second exposure of the same duration, using a fresh sheet of solio, this time placing an ordinary piece of glass between the lamp and the printing-out paper. The resultant darkening of the paper is due to visible rays alone. This experiment exhibits in a very striking manner the vastly superior efficiency of ultraviolet rays in producing chemical effects.

The spark from a Rhumkorff coil, the lightning flash, the discharge from a high-tension, high-frequency, or Tesla coil, the spark from a static machine, are all exceedingly rich in ultraviolet and other strongly actinic rays, and ordinarily very poor in heat rays. The vacuum electrodes used with the high-tension, high-frequency transformer have been shown to be rich in ultraviolet rays, especially when a short spark gap intervenes between the electrodes and the area of application. There is also a liberal quantity of ozone formed by this "electric spray," and if, as is claimed, both ultraviolet rays and ozone are bactericidal it is possible for the therapeutist to combine both agencies when using vacuum electrodes with the high-tension, high-frequency transformer.

The *x*-rays, especially from the so-called "soft" and "medium" tubes, are exceedingly active chemically. In fact, *x*-rays have quite a few properties in common with ultraviolet rays, and some writers have suggested that the principle involved in their therapeutic use is much the same. Some even refer to *x*-rays as ultra-ultraviolet rays, though, of course, no one knows at the present time the nature of Roentgen rays. Both are invisible; both are active chemically; both affect the photographic film; both cause willemite to fluoresce a yellowish green. *X*-rays cannot be reflected, refracted, or polarized; ultraviolet rays can be reflected, refracted and polarized. Rock salt and quartz are opaque to *x*-rays and transparent to ultraviolet rays. *X*-rays induce *white* fluorescence in polysulphid of calcium, while ultraviolet rays produce blue fluorescence in the same substance. *X*-rays will penetrate the superficial tissues and influence the nutrition of the deeper ones. Ultraviolet rays will not directly influence the deeper tissues, not even the superficial ones, unless they are deprived of their blood contents,—that is, dehematized. *X*-rays are said to have no appreciable effect on the vitality of bacteria, while ultraviolet rays will rapidly destroy the vitality of bacteria. *X*-rays will penetrate the thickest book, while ultraviolet rays are stopped by a single leaf from the same book. Whatever may be their relationship, if any, it remains true that much more is known of the nature of ultraviolet waves, and of their place in the spectrum than is known of the nature of *x*-rays, while it is impossible to assign a definite place in the spectrum for Becquerel rays, radium rays or Roentgen rays.

Whatever may be the explanation of these mysteries, it is to be hoped that their practical value may be so determined that they may contribute largely to the material welfare of the human race. It is to be hoped that there will never be any lack of men who will discover the practical value of all these agencies and apply them to ends useful to mankind. Every encouragement should therefore be given to the investigator, for it is to him that we owe our advances which better the condition of humanity.

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A CASE OF FECAL ACCUMULATION.*

BY JAMES B. WALLACE, M. D., SALINE, MICHIGAN.

THE patient in this case is a man fifty-seven years of age, a farmer, who had always prided himself upon the ruggedness of his constitution and had boasted of his good health. For years his weight had not varied more than a few pounds, but ran between one hundred forty-five and one hundred fifty pounds. There is no idiosyncrasy in the history of the patient's family except that one sister has been afflicted with melancholia for some years past, and the fact of her mental aberration has had a very depressing effect upon my patient at intervals. Then, also, there is a general inertia of the gastrointestinal tract in all of the patient's family which consists of one brother and three sisters.

On December 4, 1902, my patient's only child, a married daughter, on returning from a visit to her parents, called at my office in great alarm, and asked me to go as soon as possible to see her father, especially requesting me to examine his lungs thoroughly. She said that he was suffering from a severe attack of pneumonia. I inquired her reason for suspecting pneumonia, to which inquiry she replied, first, because of his high fever, chills, difficult and rapid breathing, and severe pain in the chest; second, by diagnosis of one who was not the family physician but who was requested on passing the house to furnish temporary relief. The opinion given that both lungs were almost completely consolidated, served to increase the alarm of the family, and consequently the daughter came in great haste for me.

I responded to the call with my mind filled with forebodings, not as to the diagnosis—for that seemed settled,—but as to how I could handle such a condition most successfully so as to arrest the progress of the disease. Upon my arrival at the house, I found the patient, as well as the members of the family, in great anxiety. The patient was coughing almost incessantly; there was great dyspnea, doubtless increased by the patient's alarm. He was bolstered up in bed and was groaning at every act of respiration. I found his pulse 122, his temperature 105°, and his respiration 42. He had a severe chill while I was making ready to examine his chest. From the rapidity of his respiration it was difficult to gain much information by inspection. Palpation revealed no such condition of the lungs as I suspected I should find. The stethoscope showed that the lungs were perfectly clear without a râle or an abnormal murmur, and percussion confirmed what the stethoscope revealed.

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*Read before the WASHTENAW COUNTY (Ann Arbor) MEDICAL SOCIETY.

Now I was in a quandary. Less than two hours before a diagnosis of two consolidated lungs with lobar pneumonia confronted me, the family confident that such was the condition, and now I was absolutely sure that there was no consolidation and no pneumonia.

In order to clear up the patient's breathing somewhat and put a stop to the incessant groaning and coughing, I administered one one-hundredth grain of nitroglycerin and one-fourth grain of morphin sulphate hypodermatically, and assured the friends that in a few minutes the patient would be resting comfortably and then we could make a much more careful and thorough investigation of the condition. In less than ten minutes the hypodermic medication took effect, and the patient was breathing quietly, the respirations decreasing to 32 per minute.

Reexamination of the quiet chest revealed nothing abnormal, and I was compelled to say to the family that there was no inflammation of either lung and no consolidation. While I would have been willing to take oath upon that opinion, however, I had not yet explored far enough to arrive at a diagnosis of the patient's truly serious condition, and the family were anxious and insistent to know what was the matter. I quietly told them to wait and when I found out I would tell them; and I truly believe that every member of the family by this time suspected that I was wrong about the pneumonia.

Now I began to investigate the other organs. The patient was lying upon a feather bed which concealed what I doubtless would have noticed as soon as I entered the room, had he been lying upon a firm mattress. I turned down the bedclothes and,—shades of Hippocrates—what a sight met my gaze! The abdomen of Henry VIII or of Prince Poins were hardly to be compared with that of my patient for size. I almost exclaimed, "Filled to bursting with gas," but prudence bade me say little until I knew. My percussion hammer came down upon my finger as a pleximeter, and I expected to startle the friends by the drumhead note. But it was I who was startled! Instead of the reverberation of a deep tympanitic note, I obtained only a sickish, flat sound as of a solid substance. Over stomach and bowel, over liver and spleen, over heart and lower chest, the note was the same,—dull, doughy, flat, and fateful. Here was the consolidation and not in the lungs as was supposed.

My patient now was taking much interest in the proceedings. His nerves were steady, his breathing was easy, and while he still coughed a good deal, he was in no pain. I interrogated him about his appetite, and he surprised me by saying that it was fairly good. I asked him about his bowels, and he astonished me by replying that they were very regular, and insisted that they moved once or twice every day. His kidneys were normal, and no percussion wave could be obtained over the abdomen,—only a dull, doughy, deadly thud. That abdomen was full of undigested and decomposed material, and I was sure of it; or, there was a solid tumor filling the whole abdomen, which I did not believe. I measured the abdomen at the level of the umbilicus and found it to be a little more than fifty-two inches. I inquired of the patient what size of garments he usually wore and he informed me that for years he had worn size thirty-two, which were always sufficiently large since he could not endure tight clothing. For the last few months, however, he said he had been growing fleshy, and was compelled to have larger clothes made. His friends had twitted him upon his size, asking if he had adopted the practice of drinking beer, but being a strictly temperate man, he thought he was naturally acquiring flesh. I asked when he was last at stool, and found that the bowels had moved just before I came in, and the stool was yet in the vessel. I examined it and found it of pasty consistence, clay color, and about the size of a lead pencil. The tongue was covered with a leathery coating, the eyes were leaden, and the breath was decidedly fecal. Kennedy's sign of mobility of the mass during respiration or coughing, or even by change of position, was worthless in this case, because of the enormity of the distention. Not the slightest amount of tympany could be elicited, even by deep percussion over any of the viscera. While there was some tenderness, I was surprised to find that there was no discomfort to the patient from manipulation and that he had no pain at all over the abdomen. He was troubled a great deal with persistent hiccough, and only at those times was there any discomfort over the abdomen, except the enormous size.

I was now ready to make known my diagnosis to the patient and family. I told them firmly that the lungs were normal, and that the whole affliction was an accumulation of feces, which now had almost filled the entire intestinal tract. This diagnosis was immediately protested against by the patient, who declared that his only pain was in the chest, and that he felt no inconvenience about his bowels, except the size of his abdomen. He cited the fact that his bowels moved every day and that his appetite was fair. The friends reminded me of his chills, high fever, and rapid respiration; and when I replied "autointoxication," one good old neighbor lady clasped her hands and exclaimed: "I have known that man more than thirty years, and have never before heard anyone say that he was intoxicated." But my diagnosis was made and I stood by it, saying that the case was very serious and something must be done at once. They then yielded to my judgment, and I began to fortify myself with a very guarded prognosis.

Now came the most difficult part of my problem. What should I do? Digital examination of the rectum was impossible beyond two or three inches within the sphincter. Beyond that was a solid wall of what appeared to the examining finger to be baked sand. What should I do, and more especially what should I do first? Operative measures were clearly out of the question both on account of the patient's weakened condition and also because of the extent of intestine involved. I would see if I could clear the rectum by irrigation. The fountain syringe was made ready and not more than six to eight ounces of water could be introduced at a time. With a spoon handle I was able to dislodge two or three small hard scybala. Should I try cathartics? If so, what should I use? If I used one which would excite peristalsis, might it not rupture the already paralyzed muscle of the bowel, or close up the very small canal which was yet patent? If, on the other hand, I should use a saline, might it not liquefy a portion high up in the intestine and regurgitation of the feces ensue? Or, if not that, might not other scybala be dislodged high up in the colon and perhaps plug up the only channel that was left?

These questions came quickly, but there was no time for reflection. I decided to give castor oil in repeated doses, and trust to the oil following the open channel and perhaps enlarging it. I gave a tablespoonful and ordered it repeated every hour until the whole of a two-ounce bottleful had been used, or until I saw him again. Once more the patient protested that his bowels were all right, and that he did not need a cathartic. I replied, "Wait and see." I gave instructions to the family to make a record on a piece of paper which I prepared, of the exact number of times the bowels acted, the size, odor and character of the stool. I returned in about eight hours. The patient was feeling much the same as when I left. Temperature, pulse, and respiration were practically the same, but the patient was not so nervous. The cough was almost incessant. Two ounces of the castor oil had been taken and no movement of the bowels. While talking with the patient, however, he requested the family to retire, and there was a large movement of the bowels. It was a black, putrid mass of gravy-like consistence, and the smell was so horrible that the patient was almost overcome and asked to be transferred to another room, which was done. I continued the oil. Four attendants had all they could do to wait upon the patient until my arrival next day. The bowels in the meantime had acted two or three times every hour, and the stools were of about the same character and odor.

When I saw my patient next day he declared that he was tired of having so many stools and that he was sick because of the odor. But he was better: Temperature, 103°, pulse, 110, respiration, 36. I then permitted him a little sleep and continued the oil.

Without wearying you with the detail, I will say that within the week there were exactly one hundred seventy-one large stools, not counting a large number of attempts which brought away only a little. Now I come to an interesting event in this history. At the beginning of the one hundred fifteenth evacuation the patient and the attendants heard something like loose particles drop into the vessel. After stool they examined and found some granular bodies. Having been instructed to be on the lookout for anything unusual, they washed the excrement away and found remaining from two to three drachms of kernels of wheat,—as plump and firm as the day they were ingested. When I made my next call, the wheat was exhibited to me and I inquired of the patient when he had eaten any wheat. He informed me that having no teeth, he was positive that he had not taken any wheat into his mouth since the time when his grain was threshed, more than three months before. He did remember having put a handful of wheat into his mouth at that time. Query: Why was the wheat perfect after this long period, and does the time when the wheat was passed give any clue as to the length of time the fecal accumulation was going on?

I continued the elimination and the patient steadily improved until the one hundred seventy-second evacuation began to show freshly-ingested and well-digested food, when we ceased to record further evacuations.

I now turn to the question of the etiology of the man's condition. Upon examination I discovered that the patient had not a single tooth in his head, and had not been able to masticate his food properly for more than ten years, when he had all his teeth extracted. I inquired why he had not worn artificial teeth, and he informed me that previous to having his upper teeth extracted he had a lower plate made but could not wear it. That aside from wearing it three or four times to church it had lain in the box all these years. This was the key to the situation. The man ate all kinds of food and felt that he was masticating it better with the bare gums than he could with artificial teeth.

The dentist to whom I sent the patient examined the clumsy work of the old plate and informed me that he did not blame the man for not trying to wear it. I made it imperative that he must have his mouth fitted with proper teeth, and that he must wear them and must use them when eating. My patient obeyed orders, and made a good recovery; he has had his teeth made and is wearing them now with great benefit to himself and much satisfaction to his friends. He is doing his usual amount of work on the farm, and has regained the strength which he lost as a result of the autointoxication; but he has a job lot of large-size garments which he will never be able to make use of under normal conditions.

A DAILY STUDY OF FOODS PRODUCING OR NOT PRODUCING CASTS, FATTY EPITHELIA, AND ALBUMIN IN URINE.

By EPHRAIM CUTTER, M. D., NEW YORK.

[CONTINUED FROM JUNE NUMBER.]

PLEASE compare the urine with the preceding breakfast (B.), lunch (L.), dinner (D).

June 29.—(U.): Slight albumin; two casts; fatty epithelia; protoplasmic catarrh.

(B.): Cold tongue; baked potato; Boston brown bread; coffee and cream; water; lemon.

(L.): Cold tongue; chowchow; potato; entire wheat flour bread; coffee and cream; peach sauce; cheese.

(D.): Dried beef; eggs; potato; English breakfast tea and cream; whole wheat ginger-bread.

June 30.—(U.): Nearly normal.

(B.): Cold beef tongue; chowchow; entire wheat bread and butter; coffee and cream; peach and rhubarb sauce combined.

(L.): Fried eggs; ham; baked potato; coffee and cream; rhubarb sauce.

(D.): Cold beef tongue; chowchow; rhubarb sauce; water; milk; whole wheat ginger-bread; butter.

July 1.—(U.): Slight albumin; one false cast.

(B.): Tripe; coffee and cream; baked potato; water; rhubarb.

(L.): Ham, boiled; baked potato; peas; English breakfast tea and milk; water; peach.

(D.): Ham, boiled; lettuce salad; Boston brown bread; baked potato; water.

July 2.—(U.): One false cast; otherwise almost normal.

(B.): Cold ham; baked potato; coffee and cream; lettuce salad; Boston brown bread.

(L.): Beefsteak; whole wheat ginger-bread; lettuce salad; Boston brown bread; milk; coffee; sauce.

(D.): Tripe; water; lettuce salad; cold ham; whole wheat ginger-bread.

July 3.—(U.): Slight albumin.

(B.): Cold ham; baked potato; coffee and cream; chowchow; water; whole wheat mush dextrosed and milk.

(L.): Ham and eggs; baked potato; string beans; water; English breakfast tea and milk; whole wheat mush dextrosed and milk.

(D.): Cow beefsteak; green peas; apple sauce; water; whole wheat mush; ginger-bread.

July 4.—(U.): Nearly normal; suggestions of albumin and bile.

(B.): Biscuit-chopped beef; lettuce salad; coffee and cream; rhubarb; whole wheat mush; ginger-bread.

(L.): Soup; coffee and milk; baked potato; date, raisin and whole wheat dextrosed pudding; cheese; skim milk.

(D.): Quahaugs and juice; lettuce salad; water; lemon; whole wheat dextrosed; ginger-bread; combination sauce.

July 5.—(U.): Almost perfect.

(B.): Cow beef; baked potato; coffee and milk; lettuce; whole wheat mush dextrosed and milk.

(L.): Cow beef (could not eat much); cold ham; coffee and milk; water; lettuce; cheese; whole wheat ginger-bread; whole wheat mush dextrosed and milk.

(D.): Corned cow beef; lettuce; water; milk; lemon; cheese; whole wheat dextrosed and date pudding.

July 6.—(U.): Almost perfect.

(B.): Cold corned beef; coffee and cream; butter; baked potato; wheat and date pudding.

(L.): Mutton stew; potato; tomato; chowchow; cheese; wheat dextrosed ginger-bread; English breakfast tea and milk.

(D.): Boiled eggs; cheese; water; whole wheat mush dextrosed and milk; English breakfast tea.

July 7.—(U.): Almost perfect.

(B.): Stewed mutton; baked potato; coffee and cream; apple sauce; whole wheat dextrosed ginger-bread.

(L.): Stewed mutton; baked potato; coffee and cream; tomato sauce; whole wheat dextrosed ginger-bread.

(D.): Good sirloin steak; baked potato; lettuce; water; whole wheat dextrosed ginger-bread; English breakfast tea.

July 8.—(U.): Almost perfect.

(B.): Cold boiled ham; coffee and milk; baked potato; chowchow; wheat and date pudding.

(L.): Mutton stew; baked potato; oolong tea.

(D.): Cold ham; water; lemon; chowchow; cheese; whole wheat dextrosed ginger-bread.

July 9.—(U.): Trace of albumin; one kidney cast; two false ones; fatty epithelia. Effect of ham.

(B.): Mutton stew; potato; coffee and milk; tomato; water; chowchow.

(L.): Cold ham; eggs; spice whole wheat cake; lemon; English breakfast tea and milk.

(D.): Beefsteak; cheese; water; lemon; whole wheat spice cake; whole wheat mush dextrosed and milk.

July 10.—(U.): Slight albumin.

(B.): Beefsteak; baked potato; tomato sauce; cheese; whole wheat dextrosed and milk.

(L.): Beefsteak, warmed over; coffee and milk; baked potato; tomato sauce; cheese; whole wheat mush dextrosed and milk.

(D.): Beefsteak (cowish); baked potato; milk; cheese; whole wheat mush dextrosed and milk.

July 11.—(U.): Almost normal.

(B.): Beefsteak (cowish); baked potato; tomato; coffee and cream; whole wheat mush dextrosed and cream.

(L.): Hamburg steak; coffee and cream; bread and butter; mashed potato.

(D.): Hamburg steak; water; bread and butter; Lyonnaise potato.

July 12.—(U.): Slight bile.

(B.): Broiled salmon; coffee and cream; French fried potatoes; bread; butter; water.

(L.): Hamburg steak; egg shake; water.

(D.): Hamburg steak; peas; spice cake; lemon; water.

July 13.—(U.): Slight albumin.

(B.): Hamburg steak; baked potato; chowchow; coffee and cream; butter.

(L.): Hamburg steak; chowchow; salad dressing; peas; strawberries; ice cream.

(D.): Cold ham; strawberries; eggs; water; whole wheat mush dextrosed and cream.

July 14.—(U.): Cystin.

(B.): Hamburg steak; coffee and cream; lemon; water; whole wheat mush dextrosed and milk.

(L.): Hamburg steak; peas; baked potato; water; lemon; spice cake; English breakfast tea.

(D.): Cold ham; eggs; water; lemon; cheese; whole wheat mush dextrosed and cream.

July 15.—(U.): Almost normal; save one fatty epithelia.

(B.): Hamburg steak; baked potato; coffee and cream; water; lemon; chowchow; butter.

(L.): Fried scup; peas; coffee and milk; whole wheat mush dextrosed and milk.

(D.): Hamburg steak; peas; rye cake; water; whole wheat ginger-bread.

July 16.—(U.): Slight albumin; otherwise perfect.

(B.): Hamburg steak; coffee and milk; baked potato with salad dressing.

(L.): Hamburg steak; beets; spice cake; baked potato; water; lemon; coffee and cream; whole wheat mush dextrosed and cream.

(D.): Scup, biscuited; beets; water; whole wheat mush dextrosed and milk; ginger-bread and butter.

July 17.—(U.): Almost perfect.

(B.): Hamburg steak; baked potato; coffee; milk; lemon; salad dressing; whole wheat mush dextrosed and milk.

(L.): Fried eggs and bacon; coffee and milk; spice pudding.

(D.): Beefsteak; peas; water; lemon.

July 18.—(U.): Slight albumin.

(B.): Beefsteak; coffee and milk; whole wheat dextrosed and date pudding.

(L.): Lamb stew; baked potato; coffee and cream; peas; ginger-bread cake; cantaloupe melon; blueberries.

(D.): Lamb stew; blueberries and milk; potato; water; cream; cheese.

July 19.—(U): Slight albumin and some filamentous catarrh.

(B.): Lamb stew; potato; coffee and milk; blueberries and milk.

(L.): Quahaugs and juice; date pudding; beets; water; cheese.

(D.): Beefsteak; peas; blueberries and milk; water; lemon.

July 20.—(U.): Bile.

(B.): Beefsteak; beets; baked potato; coffee and milk; date and raisin pudding.

(L.): Lamb stew; potato; English breakfast tea and milk; water; date and raisin pudding.

(D.): Quahaugs and juice; peas; blueberries and milk; ginger-bread; cheese; water.

July 21.—(U): Albumin; bile less marked.

(B.): Lamb stew; potato; coffee and cream; chowchow; blueberries; whole wheat mush dextrosed and milk.

(L.): Lamb stew; coffee; peas; whole wheat ginger-bread; milk.

(D.): Fried scup; beets; lemon; water; ginger cakes; blueberry cakes.

July 22.—(U.): Slight albumin; false casts; fatty epithelium; filamentous catarrh.

(B.): Biscuited scup; baked potato; coffee and cream; beets; blueberry cake.

(L.): Beefsteak; peas; English breakfast tea and milk.

(D.): Befsteak, twice cooked (biscuited) and ground, after first cooking; beets; potato; water; lemon; spice cake.

July 23.—(U.): Trace of albumin.

(B.): Beefsteak; coffee and milk; potato; milk.

(L.): Beefsteak; a baked potato; spice cake; cheese; English breakfast tea and milk.

(D.): Biscuit-chopped beef; baked potato; water; blueberries and whole wheat mush dextrosed and milk.

July 24.—(U.): Almost perfect.

(B.): Chopped beef; boiled ham; potato; coffee and cream; whole wheat dextrosed and cream; egg shake.

(L.): Corned beef and cabbage; water; beets; bread and butter; vinegar.

(D.): Cold chopped beef; egg shake; mince pie; water.

July 25.—(U.): Nearly normal.

(B.): Hamburg steak; French fried potatoes; coffee; water; bread; butter.

(L.): Corned shoulder pork; potato; coffee; bread and butter; water.

(D.): Hamburg steak; boiled potato; rolls; butter; water.

July 26.—(U.): Slight bile.

(B.): Hamburg steak; French fried potatoes; coffee; cream; water; rolls; butter; horseradish.

(L.): Hamburg steak; coffee and cream; potato; water.

(D.): Pork chops; mashed potato; milk; blueberry pie.

July 27.—(U.): Slight bile.

(B.): Fried clams (soft); coffee and cream; rolls; French fried potatoes; water.

(L.) and (D.): Same as (D.) July 26.

July 28.—(U.): Almost normal.

(B.): Hamburg steak; French fried potatoes; coffee; cream.

(L.): Table d'hote dinner, including watermelon, lettuce and lager beer.

(D.): Tripe; boiled potato; water; peach.

July 29.—(U.): Slight albumin and bile.

(B.): Tripe; coffee and cream; French fried potatoes; water.

(L.): Sword fish; boiled cod; coffee and cream; blueberry pudding.

(D.): Corned beef; cabbage; potato; water; peaches; banana sauce.

July 30.—(U.): Bilious.

(B.): Hamburg steak; French fried potatoes; coffee; cream; bread and butter.

(L.): Whites of eggs and egg shake.

(D.): Oysters, plain roast; water.

July 31.—(U.): Much bile.

(B.): Mutton chop; coffee and cream; baked potato; bread and butter.

(L.): Eggs; bacon; entire wheat bread; coffee; water; ginger-bread; peaches.

(D.): Hamburg steak; water; blueberries; cheese; cantaloupe melon; chowchow.

August 1.—(U.): Albumin and bile.

(B.): Hamburg steak; coffee and cream; cantaloupe melon; whole wheat mush dextrosed and cream; whole wheat ginger-bread; raspberries.

(L.): Cold beef tongue; baked potato; salad dressing; water; peaches; lemon.

(D.): Hamburg steak; raspberries; peaches; white string beans; water; lemon.

August 2.—(U.): Slight albumin; free oil, probably foreign.

(B.): Hamburg steak; coffee and cream; chowchow; water; whole wheat mush dextrosed and cream.

(L.): Hamburg steak; string beans; baked potato; coffee and milk; distilled water; blueberries.

(D.): Hamburg steak; string beans; blueberries; black tea; water; lemon; cheese.

August 3.—(U.): Slight albumin.

(B.): Cold beef tongue; chowchow; coffee and cream.

(L.): Cold tongue; baked potato; butter; chowchow; blueberries; raisin crackers; cheese; coffee and milk; pineapple.

(D.): Hamburg steak; baked potato; string beans; water; lemon; cheese; pineapple.

August 4.—(U.): Slight albumin and bile.

(B.): Hamburg steak; coffee and milk; baked potato; chowchow; cooked pineapple.

(L.): Hamburg steak; baked potato; coffee and milk; chowchow; beets; water; pineapple; ginger-bread.

(D.): Cold boiled ham; chowchow; cheese; ginger-bread; English breakfast tea; ginger-bread.

August 5.—(U.): Almost perfect.

(B.): Fried scup; tomato; coffee and milk; baked potato and butter.

(L.): Stewed lamb; boiled potato; tomato; blueberries; cake.

(D.): Cold ham; chowchow; baked potato; water; cheese; string beans; ginger-bread; blueberries.

August 6.—(U.): Slight albumin; true and false casts; bile. Due to ham.

(B.): Cold ham; eggs; baked potato; beets; chowchow; coffee and cream.

(L.): Mutton stew; English breakfast tea; potato; string beans; cheese; water; graham pudding; lemon.

(D.): Cold ham; water; biscuit; fried potatoes; tomato; blueberries and milk.

August 7.—(U.): Slight albumin and bile.

(B.): Cold ham; coffee and cream; baked potato; tomato sauce.

(L.): Sirloin steak; string beans; baked potato; coffee and milk; water; lemon; compound date pudding.

(D.): Dried beef with sauce; baked potato; blueberries; bread; cheese; water; lemon; ginger cakes; whole wheat dextrosed and date pudding.

August 8.—(U.): Slight albumin.

(B.): Cold boiled ham; coffee and cream; water; baked potato; Boston brown bread; butter.

(L.): Cold boiled ham; baked potato; lettuce salad; coffee and milk; water; lemon; cheese; wheat date pudding.

(D.): Hamburg steak; baked potato; water; lemon; tomato; cheese; blueberries and milk; compound date pudding; fresh cucumbers; salad dressing.

August 9.—(U.): Almost normal.

(B.): Hamburg steak; baked potato; coffee and cream; tomato; cucumber salad.

(L.): Hamburg steak; baked potato; coffee; peaches; tomato; string beans; cheese.

(D.): Cold ham; string beans; blueberries; cheese; lettuce; compound date pudding; water.

August 10.—(U.): Almost normal.

(B.): Hamburg steak; coffee and cream; baked potato; butter; chowchow; water; lemon; whole wheat mush dextrosed and cream.

(L.): Hamburg steak; baked potato; tea; beets; water; cheese; blueberry pie.

(D.): Cold ham; water; whole wheat mush dextrosed and milk; peach; butter; blueberries.

August 11.—(U.): Almost perfect.

(B.): Hamburg steak; baked potato; coffee and cream.

(L.): Hamburg steak; baked potato; water; whole wheat mush and milk; beets; string beans; peach; cheese; English breakfast tea and milk.

(D.): Beefsteak; whole wheat mush dextrosed and milk; water.

August 12.—(U.): Slight albumin and bile.

(B.): Beefsteak; coffee and cream; cantaloupe melon; whole wheat mush dextrosed and cream.

(L.): Roast beef; peas; mashed potato; corn bread; butter; egg shake.

(D.): Veal chops; bread and butter; French fried potatoes; waffles; water.

August 13.—(U.): Bile.

(B.): Omelet; veal steak; biscuit and boiled potato; coffee; entire wheat flour gems.

(L.): Custard pie; coffee; wheatose, infants' food.

(D.): Sirloin steak; English breakfast tea and cream; German fried potatoes; water.

August 14.—(U.): Slight bile and protoplasmic catarrh.

(B.): Beefsteak; coffee and cream; water; French fried potatoes.

(L.): Sirloin steak; coffee and cream; bread and butter; Lyonnaise potato.

(D.): Small rump steak; French fried potato; water; bread and butter.

August 15.—(U.): Bile.

(B.): Hamburg steak; coffee and cream; water; Lyonnaise potato.

(L.): Peaches; soda water.

(D.): Hamburg steak; milk; custard; peaches; blueberries; Boston brown bread.

August 16.—(U.): Slight albumin.

(B.): Hamburg steak; chowchow; coffee and cream; baked potato; Ralston cereal food; blueberries.

(L.): Hamburg steak; cheese; baked potato; blueberries; coffee and cream.

(D.): Boiled Ferris ham; Boston brown bread; water; lettuce salad; custard; lemon.

August 17.—(U.): Albumin; true and false casts; bile.

(B.): Cold ham; baked potato; Boston brown bread and butter; coffee and cream; distilled water.

(L.): Mutton stew; boiled potato; lettuce salad; blueberry pie; cheese; coffee and cream; water.

(D.): Cold ham; lettuce salad; water; whole wheat mush dextrosed and cream.

August 18.—(U.): Slight albumin and bile.

(B.): Cold boiled ham; baked potato; mustard; coffee and cream; whole wheat mush dextrosed and milk; cheese.

(L.): Mutton stew; baked potato; baked apple; tea and milk.

(D.): Cold ham; fresh cucumbers; blueberries and milk; distilled water; lemon; butter; Boston brown bread.

August 19.—(U.): Normal.

(B.): Boiled mutton, cold; coffee and milk; baked potato; eggs; water; cucumber salad; whole wheat mush dextrosed and milk.

(L.): Hamburg steak; boiled potato; cheese; butter; baked apple; chowchow.

(D.): Hamburg steak; cold ham; baked potato; lettuce salad; water; lemon; whole wheat mush dextrosed and cream.

August 20.—(U.): Slight albumin and bile.

(B.): Hamburg steak; baked potato; coffee and cream; cucumbers with vinegar; whole wheat mush dextrosed and milk.

(L.): Hamburg steak; baked potato; cheese; apple; oolong tea; water; lemon; cucumbers; whole wheat mush dextrosed and milk.

(D.): Quahaugs and juice; distilled water; Boston brown bread; lettuce salad; dates.

August 21.—(U.): Albumin, marked; bile. Worked too hard yesterday.

(B.): Hamburg steak; baked potato; chowchow; coffee and cream; whole wheat mush dextrosed and cream and milk; water; Boston brown bread; cantaloupe melon.

(L.): Two egg shakes; mutton soup; cereal coffee; water; cake and tea.

(D.): Cold corned beef; potato salad; bread; butter; water.

August 22.—(U.): Slight albumin.

(B.): Hamburg steak; coffee; potato; bread.

(L.): Cold corned beef; water; bread and butter; English breakfast tea.

(D.): Cold corned beef; cream; sweet potato; entire wheat bread toasted; ginger-bread; water.

August 23.—(U.): Considerable albumin.

(B.): Bacon and eggs; coffee and cream; toast; graham rolls; butter.

(L.): Two egg shakes; biscuited potato; boiled eggs; coffee and cream; ham hash.

(D.): Rump steak; water; lemon.

August 24.—(U.): Little albumin.

(B.): Beefsteak; pig's tongue; Boston brown bread; baked potato; coffee and cream; cucumbers.

(L.): Cold pig's tongue; boiled potato; beet; cheese; blueberry pie; English breakfast tea.

(D.): Mutton stew; Boston brown bread; water; lemon; chowchow; mince pie; cheese.

August 25.—(U.): Less albumin.

(B.): Pig's tongue; baked potato; chowchow; Boston brown bread; coffee and cream; whole wheat mush dextrosed and cream.

(L.): Mutton stew; boiled potato; boiled beet salad; English breakfast tea and milk; cheese; blueberry pie.

(D.): Hamburg steak; lettuce; blueberries and milk; baked apple; water.

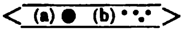
August 26.—(U.): Albumin, slight; true and false casts, abundant; Probably due to the pig tongue and mutton.

(B.): Hamburg steak; coffee and cream; baked potato; milk; cucumbers; Boston brown bread; water; whole wheat mush dextrosed and milk.

(L.): Stewed mutton; baked potato; Boston brown bread; cheese; English breakfast tea; whole wheat mush dextrosed and milk.

(D.): Cold ham, Armour's; lettuce salad; water; lemon; Boston brown bread; sage cheese; whole wheat mush dextrosed and milk.

August 27.—(U.): Slight albumin; bile; fatty epithelium, to-wit:



(a) nucleus; (b) oil. But it was more symmetric than the figure.

(B.): Cold ham; raw fried potatoes; coffee and cream; water, distilled; baked apple.

(L.): Hamburg steak; boiled potato; boiled onions; water; custards; English breakfast tea.

(D.): Mutton stew; cold ham; milk; water; custard; Boston brown bread.

August 28.—(U.): Slight albumin and bile; some fatty epithelia; filamentous catarrh; many true and false casts. Due probably to ham, mutton, and custards.

(B.): Hamburg steak; biscuited potato; Boston brown bread; chowchow; coffee and milk; cheese; blueberries and milk.

(L.): Hamburg steak; boiled potato; chowchow; onions; cheese; fresh cucumbers; English breakfast tea; mince pie.

(D.): Cold ham; Boston brown bread; distilled water and milk, hot and cold; mince pie and cheese; apple stew.

August 29.—(U.): Slight albumin and bile.

(B.): Hamburg steak; cold ham; cucumber; baked potato; coffee and cream; distilled water; Boston brown bread.

(L.) Hamburg steak; baked potato; cucumber, big and good; milk and English breakfast tea; baked apple; ginger-bread.

(D.): Rump steak; Boston brown bread; water; lemon; cheese; apple; blueberry pie.

August 30.—(U.): Slight albumin and bile.

(B.): Hamburg steak; baked potato; coffee and cream; Boston brown bread; whole wheat mush dextrosed and milk.

(L.): Beefsteak; boiled potato; gravy; lettuce salad; beets; coffee and cream; water; mince pie; cheese.

(D.): Ham hash and lettuce; Boston brown bread; water; lemon; blueberry pie.

August 31.—(U.): Very slight albumin and bile.

(B.): Hamburg steak; coffee and cream; baked potato; water; Boston brown bread.

(L.): Hamburg steak; baked potato; coffee and milk; cheese; lettuce; mince pie.

(D.): Hamburg steak; Boston brown bread; water; ginger-bread of whole wheat flour; blackberries.

September 1.—(U.): Very slight albumin and bile.

(B.): Hamburg steak; biscuited potato; coffee and cream; baked potato.

(L.): Boiled Ferris ham; boiled potato; boiled onions; water; coffee and milk; mince pie.

(D.): Porterhouse steak; milk; creamed potato; bread and butter; tomato; lettuce salad; peaches and cream; water. (Birthday dinner.)

September 2.—(U.): Slight albumin and bile.

(B.): Hamburg steak; cold ham; coffee and milk; baked potato; chowchow; Boston brown bread.

(L.): Cold ham; English breakfast tea; cucumbers; water; mince and apple pie.

(D.): Ham hash; Boston brown bread; butter; beets; distilled water; cheese; mince pie.

September 3.—(U.): Slight albumin; some false casts; filamentous catarrh; cystin.

(B.): Quahaugs and juice; coffee and milk; Boston brown bread; toast; mince pie.

(L.): Hamburg steak; English breakfast tea; boiled potato; grapes.

(D.): Hamburg steak; toast; lettuce; distilled water; milk; date pudding; lemon.

September 4.—(U.): Almost normal.

(B.): Hamburg steak; cucumber salad; coffee and milk; baked potato; baked apple; toast.

(L.): Hamburg steak; boiled potato; boiled onions; lettuce; English breakfast tea.

Intercolation.—Three whites of eggs.

(D.): Boiled corned pork shoulder; spinach; bread; butter; water.

September 5.—(U.): Albumin; bile.

(B.): Lamb's tongue; coffee and cream; bread and butter.

(L.): Hamburg steak; coffee and cream; boiled potato; butter; bread.

(D.): Hamburg steak; baked apple; cheese; water; ginger-bread; Patapsco sauce.

September 6.—(U.): Albumin; casts; false casts; fatty epithelia; filamentous and protoplasmic catarrh.

(B.): Fried scup; baked potato; coffee and milk; stewed grapes; Boston brown bread.

(L.): Hamburg steak; biscuited potato; cantaloupe melon; English breakfast tea; wheatose pudding.

(D.): Hamburg steak; water; Boston brown bread; baked apple; celery.

September 7.(U.): Almost perfect.

(B.): Hamburg steak; baked potato; baked apple; coffee and cream; Boston brown bread; whole wheat mush dextrosed and milk.

(L.): Hamburg steak; boiled potato; celery; chowchow; gingerbread; blackberries; coffee; water; milk.

(D.): Hamburg steak; water; cheese; mustard; date and whole wheat dextrosed pudding.

September 8.—(U.): Perfect.

(B.): Hamburg steak; baked potato; baked apple; Boston brown bread; chowchow; coffee and cream; distilled water.

(L.): Hamburg steak; baked potato; cheese; English breakfast tea and milk; water; chowchow; date and wheat pudding; baked apple (green Porter).

(D.): Cold boiled ham; biscuit potato; water; baked apple; whole wheat mush dextrosed and milk.

September 9.—(U.): Albumin; bile; lactic acid yeast.

(B.): Hamburg steak; baked potato; baked apple; coffee and cream; chowchow; entire wheat flour gems; butter.

(L.): Hamburg steak; biscuit potato; lettuce; butter; chowchow; mustard; water; ginger-bread; entire wheat gems; English breakfast tea and milk.

(D.): Hamburg steak; lettuce; water; baked apple; chowchow; whole wheat mush dextrosed and milk.

September 10.—(U.): Slight albumin.

(B.): Hamburg steak; baked potato; coffee and cream; chowchow; baked apple; whole wheat mush dextrosed and cream.

(L.): Steamed fresh water bass; steamed potato; egg sauce; English breakfast tea and milk; cheese; ginger-bread; apple sauce; cranberry sauce.

(D.): Hamburg steak; milk and water; steamed biscuited potato; ginger-bread; butter.

September 11.—(U.): Slight albumin; one false cast.

(B.): Hamburg steak; coffee and cream; baked potato; mustard; whole wheat gems.

(L.): Two milk shakes.

(D.): Hamburg steak; chowchow; milk and water; entire wheat gems and butter.

September 12.—(U.): Almost normal.

(B.): Hamburg steak; chowchow; coffee, one-half plain; baked apple; whole wheat mush dextrosed and cream.

(L.): Hamburg steak; chowchow; biscuited potato; oolong tea; lettuce; whole wheat mush dextrosed and cream.

(D.): Hamburg steak; lettuce salad; cheese; distilled water; ginger-bread.

September 13.—(U.): Albumin; bile; false casts; filamentous and protoplasmic catarrhs.

(B.): Fried mackerel; tomato; coffee; peas; whole wheat mush and cream.

(L.): Hamburg steak; tomato sauce; cake; distilled water; cheese; coffee.

(D.): Hamburg steak; lettuce salad; distilled water; stewed pear; whole wheat mush dextrosed and milk; cake; cheese.

September 14.—(U.): Albumin; bile; amyloid.

(B.): Pan-fried mackerel; coffee, clear and creamed; entire wheat gems; butter; pear stew; whole wheat mush dextrosed and cream.

(L.): Ham hash; cucumbers; small yellow tomato; whole wheat mush dextrosed and milk; cheese; distilled water.

(D.): Ham hash; lettuce; tomato; cheese; distilled water.

September 15.—(U.): False casts; albumin; bile; filamentous catarrh; lactic acid yeast.

(B.): Hamburg steak; tomato; cucumbers; coffee; whole wheat mush dextrosed and cream.

(L.): Tomato soup; veal roast; potato; bread and butter; apple pie; pickles; water.

(D.): Hamburg steak; mustard; cheese; water; lemon; whole wheat mush dextrosed and milk.

September 16.—(U.): Albumin.

(B.): Hamburg steak; sweet potato; coffee; mustard; baked apple; whole wheat mush dextrosed and cream.

(L.): Hamburg steak; tomato stew; coffee; apple pie; milk; mustard.

(D.): Cold lamb's tongue; milk; water, distilled; sage cheese; whole wheat mush dextrosed and honey (native).

September 17.—(U.): Albumin; casts true and false; fatty epithelia; catarrh. Lamb's tongue the cause.

(B.): Steamed scup; baked sweet and Irish potato; coffee; water; whole wheat mush dextrosed and cream.

(L.): Hamburg steak; boiled potato; chowchow; coffee; distilled water; mince pie; cheese.

(D.): Cold lamb's tongue; chowchow; cheese; milk and water; mince pie.

September 18.—(U.): Casts, both kinds; bile; both catarrhs and Indian club catarrh; lactic acid yeast.

(B): Biscuited scup; biscuited potato; coffee; whole wheat mush dextrosed and milk.

(L.): Hamburg steak; coffee; biscuited potato; water; milk; chowchow; cranberry sauce.

(D.): Broiled tripe; Lyonnaise potato; water; bread; butter.

September 19.—(U.): Very slight albumin.

(B.): Rump steak; French fried potato; butter; coffee and cream.

(L.): Hamburg steak; tomato sauce; coffee; potato.

(D.): Bacon; sweet potato; water; squash pie.

September 20.—(U.): Slight albumin.

(B.): Beefsteak; wheat cereal; coffee and cream; peaches.

(L.): Cold corned beef; coffee; bread.

(D.): Oysters, plain roast; roast beef; custard pie; water.

September 21.—(U.): Little albumin; bile.

(B.): Fried soft clams; Lyonnaise potato; coffee.

(L. and D.): Corned beef; cabbage; rolls; butter; water.

September 22.—(U.): Almost normal.

(B.): Pettijohn's wheat; coffee and cream; beefsteak; eggs; roll; baked potato.

(L.): Tomato soup; beef pie; turnip; water; milk; apple pudding.

(D.): Oysters, plain roast; crackers; water.

September 23.—(U.): Slight albumin.

(B.): Pettijohn's wheat and cream; peach; beefsteak; fried eggs; baked potato; corn cake; butter; coffee and cream.

(L.): Hamburg steak; boiled potato; coffee and cream; bread and butter.

(D.): Broiled tripe; baked potato; water; butter and bread.

September 24.—(U.): Slight albumin.

(B.): Beefsteak; baked potato; corn bread and butter; coffee; cream by itself.

(L.): Lamb broth; steamed soft clams; cold pork; cold mutton; cheese; applie pie; English breakfast tea and cream.

(D.): Roast mutton; sweet potato; raw tomato; water; gravy; peaches in segments.

September 25.—(U.): Slight albumin.

(B.): Cream of wheat and cream; beefsteak; baked potato; coffee; mutton chop.

(L.): Fried Essex clams; water.

(D.): Hamburg steak; shredded wheat and cream; hot water and cream; distilled water; peach.

September 26.—(U.): Albumin; abundant true and false casts; slight filamentous and protoplasmic catarrhs, and mucopus. Was it the cream?

(B.): Hamburg steak; coffee and cream; butter; peach; shredded wheat biscuit.

(L.): Hamburg steak; shredded wheat biscuit; coffee; chowchow; water, distilled; mince pie; cheese.

(D.): Hamburg steak; peaches and cream; water; milk; gingerbread; Arlington wheat meal bread.

September 27.—(U.): Slight albumin.

(B.): Hamburg steak; shredded wheat biscuit and cream; coffee and cream; water; baked apple; cheese; mince pie.

(L.): Hamburg steak; tomato; spinach; Lyonnaise potato; coffee and cream; roll and butter.

(D.): Cold boiled tongue; milk; whole wheat biscuit and milk; peach; pickle; ginger-bread.

September 28.—(U.): Slight albumin and bile; one catarrhal filament.

(B.): Beef tongue, cold; lemon; coffee; mince pie; cheese; Arlington wheat meal bread and butter.

(L.): Steamed chicken, dark meat; sweet potato; gravy; coffee; water; mince pie; cheese.

(D.): Beef tongue, cold; boiled potato; water, hot, and milk; cheese; baked apple.

September 29.—(U.): Slight albumin; abundant false casts and filamentous catarrh.

(B.): Steamed and stewed chicken; boiled potato; coffee and cream, clear; Hamburg steak; pickled peach; mince pie.

(L.) : Beef tongue, cold; sweet potato; English breakfast tea and milk; mince pie; cheese.

(D.) : Hamburg steak; sweet potato; chowchow; tomato; distilled water; milk; ginger-bread.

September 30.—(U.) : Almost normal, save a few fatty epithelia.

(B.) : Steamed and stewed chicken; sweet potato; tomato; coffee, clear and creamed; mince pie; cheese.

(L.) : Hamburg steak; sweet potato; tomato; milk and water; mince pie; cheese.

(D.) : Cold Hamburg steak; sweet potato; milk; pickled peach; butter; whole wheat mush dextrosed and milk and cream.

October 1.—(U.) : Normal otherwise than very slight albumin and bile.

(B.) : Cold Hamburg steak; tomato; coffee; mince pie; cheese; whole wheat mush dextrosed and cream.

(L.) : Hamburg steak; sweet potato; tomato and vinegar and sugar; water; milk; cheese; mince pie.

(D.) : Cold Hamburg steak; sweet potato; milk; water; cheese; cranberry sauce; mince pie.

October 2.—(U.) : Slight albumin and bile.

(B.) : Hamburg steak; coffee; sweet potato; whole wheat mush dextrosed and milk; cheese.

(L.) : Hamburg steak; sweet potato; pickled peach; cheese; whole wheat mush dextrosed and cream.

(D.) : Hamburg steak and tomato sauce; Lyonnaise potato; Worcestershire sauce; horseradish; water; rolls and butter.

[TO BE CONTINUED.]

ORIGINAL ABSTRACTS.

MEDICINE.

By GEORGE DOCK, A. M., M. D., ANN ARBOR, MICHIGAN.
PROFESSOR OF MEDICINE IN THE UNIVERSITY OF MICHIGAN.
AND
DAVID MURRAY COWIE, M. D., ANN ARBOR, MICHIGAN.
FIRST ASSISTANT IN MEDICINE IN THE UNIVERSITY OF MICHIGAN.

ON THE RELATION OF ACID-RESISTING SAPROPHYTES (PSEUDOTUBERCULOSIS BACILLI) TO TUBERCLE BACILLI.

KLEMPERER (*Zedschrift für Klin. Med.*, Volume XLVIII, Numbers III and IV) reports some interesting and important findings with cultures of the acid-resisting bacilli of grass, milk and butter, that is, Moeller's grass bacillus, the timothy hay bacillus, and Rabinowitsch butter bacillus. All the growths employed for the experiments were highly acid-resisting and resembled the tubercle bacillus very closely in their morphology.

In 1901 (*Deutsch Medical Wochenschrift,* Number XLVIII), Koch demonstrated that a serum that will agglutinate the tubercle bacillus will also agglutinate the other acid-resisting bacteria in the same dilutions, and that if these acid-resisting bacilli (saprophytic) are inoculated into animals the serum from these animals will not only agglutinate the acid-resisting group (saprophytic) but also the tubercle bacillus.

With these facts before him Klemperer set about to determine whether the relationship of these acid-proof bacilli to the tubercle bacillus could be traced still closer. Admitting the quite generally accepted view that agglutination, although not yet positively known, is a reaction of immunization, he proceeded to inoculate animals with acid-resisting bacilli and to subsequently test their resistance to the tubercle bacillus of Koch.

The experiments were conducted in this manner: Guinea pigs were inoculated both intraperitoneally and subcutaneously, with at first one loopful of an agar culture of acid-resisting bacilli of from two to four days old, in one cubic centimeter of bouillon. Those animals that survived the inoculation were given the same dose again after eight days, and two loopfuls after the sixteenth day. Most of the pigs, however, died. Those inoculated subcutaneously gave the best results and were usually initiated with two loopfuls of culture, and in some cases more could be employed, proportionately larger amounts of bouillon being added.

Control animals were inoculated with freshly collected virulent, washed tuberculous sputum, ten small floccules of this sputum being rubbed up with one cubic centimeter of bouillon until a uniformly opaque solution resulted. Of this solution 0.2 cubic centimeter were injected subcutaneously. All the control animals died, within four to six weeks, while those that had successfully withstood the repeated doses of acid-resisting bacilli increased in weight and lived from four to six months.

Injection of acid-proof bacilli into animals previously infected with the tubercle bacillus were also made.

The author feels warranted in concluding that the experiments show that the injection of acid-proof bacteria produces an inhibitory influence upon tuberculous infection and creates a certain immunity against the latter. The protection being transient, the question as to whether there exist relations of immunization between the acid-proof bacteria and the tubercle bacillus must therefore be answered in the affirmative.

The author inclines to the opinion that the acid-resisting bacteria belong to the same species as the tubercle bacillus, and are phylogenetically related. That the course of evolution from the acid-proof saprophyte to the tubercle bacillus of man and cattle has been a very long one. The distance that separates these two groups may be very great but they are related and are undoubted links of the same chain.

D. M. C.

SURGERY.

By HENRY O. WALKER, M. D., DETROIT, MICHIGAN.
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AND
CYRENUS GAVITT DARLING, M. D., ANN ARBOR, MICHIGAN.
LECTURER ON SURGERY AND DEMONSTRATOR OF SURGERY IN THE UNIVERSITY OF MICHIGAN.

THE TREATMENT OF THE PERITONEUM IN DIFFUSE PERITONITIS.

JOSEPH A. BLAKE, M. D., of New York, in a paper read before the American Surgical Association (*Annals of Surgery*), makes a classification of peritonitis according to peritoneal involvement:

(1) Localized collections of pus with limiting adhesions.

(2) Spreading peritonitis without limitation by adhesions or gravitation but in which limits are ascertainable.

(3) General peritonitis, in which all parts except possibly the lesser sac are involved.

The last two may be called diffuse peritonitis.

Conclusions are drawn from cases occuring in his own practice during the last two and one-half years, excluding a number of cases in which the process was spreading but not extensive, and also including, in spreading peritonitis, cases which might be classed as general peritonitis. Three cases already moribund were refused operation and died in a few hours. One developed from appendicitis and two from perforating typhoid ulcer.

There were seventeen cases of spreading peritonitis and fifteen of general peritonitis. Ten of the first class were due to appendicitis, and all of them were operated upon and recovered. One case of perforating typhoid ulcer, died. There were four cases of perforating ulcer of the stomach or duodenum, two of which recovered and two died. Seven cases of general peritonitis were due to appendicitis, of which three recovered and four died, one case of perforating typhoid ulcer recovered, one case of perforating tubercular ulcer died. In six cases the infection was through the Fallopian tubes, one was probably a pneumococcic infection, one a mixed streptococcus and gonococcus infection, and the others gonorrheal. One recovered and five died. The high mortality was due largely to extreme sepsis.

There are two principles governing the treatment of these cases which are carefully followed:

(1) Removal of segregation of cause as quickly as possible to prevent further peritoneal or systemic infection.

(2) Putting the peritoneum in the best condition to withstand and eliminate the infection.

The only exception to the first principle might possibly be those cases arising from appendicitis, though the writer is in the habit of operating as soon as these patients are prepared. He believes that the removal of the cause and a large part of the toxic effusion will put the peritoneum in a better position to eliminate and destroy the remaining infection. The time for the "rest" treatment is when the appendix is out and the peritoneum cleansed.

For cleansing purposes he employs large quantities of decinormal salt solution at 110° Fahrenheit. It may be poured from a pitcher or introduced through a large glass tube.

Drainage may or may not be employed in those cases wherein the causes can be removed, such as perforations from appendicitis, salpingitis, et cetera. Ruptured abscesses, pancreatitis, et cetera, should be drained. The writer does not employ drainage as much as formerly, utilizing it only when necrotic tissue or hemorrhage demands it.

Intestinal obstruction may be caused by direct pressure of the drain or by adhesions about the site of the drain.

Résumé.—(1) Early operation. (2) Lavage of the peritoneum with large quantities of salt solution. (3) Closing the peritoneal cavity without drainage unless the latter is absolutely indicated by the presence of nonabsorbable amounts of necrotic material.

C. G. D.

GYNECOLOGY.

By REUBEN PETERSON, A. B., M. D., Ann Arbor, Michigan.
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REMOVAL OF EIGHTY-SEVEN-POUND UTERINE TUMOR.

J. Clarence Webster, in the August number of the *Journal of Obstetrics and Gynecology,* reports a case of successful removal of a cystic fibromyoma of the uterus, weighing eighty-seven pounds. The patient was forty-one years old, married but had never borne children. The history of a tumor dated back ten years, when she noticed a lump the size of a hen's egg in the left iliac region. Seven years ago, vaginal examination revealed a tumor as large as a fetal head. This mass was tender to within five years ago, but has not been since. She has not been confined to bed and there is no appreciable change in her general nutrition, but she has difficulty in walking. Menstrual history is negative except that she has flowed more freely of late years, and menstruation relieves her discomfort. The heart is found displaced upward and to the left. The abdomen is distended in a uniform manner and is pendulous, with a protruding umbilicus. The measurements are as follows:

From top of ensiform to symphysis..........	91 centimeters
From top of ensiform to umbilicus..........	49 centimeters
Greatest girth of abdomen.................	152 centimeters
From anterior superior spine to anterior superior spine across front...............	95 centimeters
Abdomen below level of anterior superior spine	28 centimeters

The operation was commenced under local anesthesia, using Schleich's solution. On opening the abdomen the upper part of the tumor was found to be a large cyst, which was tapped. Several smaller cysts were dealt with in the same manner. The abdominal incision was extended above and below, making a twelve-inch incision. Through this the tumor was delivered. The peritoneal cavity contained free fluid. The ovaries and tubes were greatly hypertrophied and the uterine and ovarian vessels very much enlarged. No general anesthetic was administered until after an hour when chloroform was given and the uterus, tubes and ovaries removed. The abdomen was filled with hot salt solution, after closing in raw surfaces and ligating vessels, and the wound was closed. The operation lasted two and one-half hours. Local anesthesia was employed for one hour and six drams of chloroform was administered during the next one and one-half hours. The patient made a good recovery. The tumor was found to be a multilocular cystic fibroid of the uterus, weighing eighty-seven pounds.

The author calls attention to the rarity of so large a uterine growth and still greater rarity of successful removal of such a tumor. He finds reports of less than a dozen uterine tumors weighing more than seventy-five pounds. Death has been the result in nearly every case in which hysterectomy was performed. He attributes his success to the careful preparation of the patient, application of heat to the body during operation, slight loss of blood and small quantity of anesthetic used. He recommends filling the abdomen with hot normal salt before closing the abdominal wound. C. L. P.

PEDIATRICS.

By ARTHUR DAVID HOLMES, M. D., C. M., Detroit, Michigan.
PROFESSOR OF PEDIATRICS IN THE MICHIGAN COLLEGE OF MEDICINE AND SURGERY.

CONVULSIONS IN INFANTS.

D'Espine (*Archives de Medicine des Enfance*) divides infantile convulsions into two main groups, symptomatic and indiopathic. The latter are divided into three varieties: (1) External convulsions, or eclampsia; (2) internal convulsions, or spasm of the glottis; (3) essential contractions of the extremities, or tetany. The first variety is the most common, and is the one usually described by writers.

The relation of epilepsy and eclampsia has been studied. Coutts reports eighty-five cases of convulsions in infants, of whom eleven became epileptic and twenty-nine were affected with other neuroses. Dofour reports fifteen epileptics among sixty-six infants who had convulsions. D'Espine reports four cases of epilepsy among fifty-four cases of infantile eclampsia. The majority of the cases of convulsions in infancy are the expression of a nervous diathesis; they are usually transitory, and clinically very different from epilepsy.

In infantile eclampsia there are no macroscopic alterations of the central nervous system, and microscopic lesions are by no means constant. In the pure types of eclampsia there is no inflammatory involvement of the meninges, though cases are found that are intermediate between these and those in which there are gross or even suppurative lesions of the meninges. The relation of eclampsia to meningeal involvement has been elucidated by the extensive knowledge of these conditions which has been furnished by lumbar puncture and the examination of the cerebrospinal fluid.

In the etiology of convulsions in children heredity plays an important part. Coutts, in one hundred cases of convulsions in children, found that there was marked family predisposition to the disorder in sixty-seven. Alcoholism in parents, hereditary syphilis and lead poisoning furnish a not infrequent number of cases. The age has an important bearing upon eclampsia, it occurring very largely in the first two years, and having a marked predilection for the first six months after dentition. The influence of dentition is less important than rickets, the affection in the latter being explained by the frequency of a gastrointestinal intoxication. Convulsions are rare in the new-born in the absence of obstetric traumatisms. Drug poisoning, such as that by carbon dioxid or the injection of alcohol or opium, may cause them, but by far the larger number are due to autointoxication, uremia, indigestion and enteritis.

RACHITIS AND STERILIZED MILK.

AUSSET (*L'Echo Medical Du Nord,* January, 1903) says that the question raised by the Society of Pediatrics as to the part played by sterilized milk in producing rachitis is one of the greatest importance. He considers that Comby holds exaggerated views in regard to this matter, and quotes the latter's opinion that breast-fed infants are free from this disease. Ausset writes that the deformities from rachitis represent a late form of the disease, and that previous to these perceptible signs microscopic lesions of the bones and of other organs exist. Studying the evolution of rickets, he says a chronic gastroenteritis is always found to be causative. He is inclined to believe that in the few cases of acute rachitis following infectious disease, intestinal disease antedated the infection, but was overlooked. He thinks that a systematic examination and microscopic study of the bones in all cases of death from chronic gastroenteric disease in infants who evinced no rachitic deformity of the bones would demonstrate thickening of the periosteum, abnormal vascularization, and involvement of the marrow, provided, of course, that the gastroenteric disease existed sufficiently long to occasion lesions. The writer records six hundred eighty-two cases observed by him; of these four hundred fifty-six were bottle-fed, fifty-nine breast-fed and bottle-fed, one hundred sixty-seven exclusively breast-fed. His conclusions are as follows:

(1) It is an exaggerated view to hold that sterilized milk causes rachitis. It is the wrong and injudicious use of the milk that produces the disease.

(2) A breast-fed child may become rachitic, if bad hygienic principles cause it to develop prolonged and serious digestive disturbance.

(3) It is necessary to establish numerous milk stations where

mothers may find not only good milk, but above all accurate and stringent directions as to the mode of administering the same. In this way a considerable diminution in the number of cases of rickets will occur.

(4) Sterilized milk judiciously given is of the greatest value. In wealthy families its use should be considered preferable to the employment of wet-nurses.

OPHTHALMOLOGY.

By WALTER ROBERT PARKER, B. S., M. D., DETROIT, MICHIGAN.
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PATHOLOGY OF, AND PROGNOSIS IN, GLIOMA OF THE RETINA.

WALTER H. JESSOP (Saint Bartholomew Hopsital report for 1903) reviews the literature of glioma of the retina and reports several cases occuring in his own practice. He considers that glioma probably commences as an alveolar condition with a marked connective tissue stroma. That at first rosettes or balls of cells of clear lumen are found, but as the tumor grows and degeneration begins, there occur finger- or worm-like processes consisting of a mantle of cells surrounding the blood-vessels. This is followed at times, even before the growth has reached beyond the eye, by loss of definite structure, and the growth assumes the form of a round-celled sarcoma. In all growths outside of the eye the structure is that of a round-celled sarcoma. When the growth also invades or infiltrates the choroid or iris the structure consists simply of cells without any tendency to definite arrangement.

In his opinion the obscurity in which the understanding of the origin of this affection is surrounded cannot be cleared until cases can be seen and studied at an earlier period than that in which most cases have commonly been reported. In his own cases the youngest child was aged thirteen months. The changes in most cases take place so rapidly that even the alveolar condition is soon lost and degeneration begins. The rosettes upon which Wintersteiner lays such stress are found chiefly in the earlier stage and only in the intraocular stage.

In his studies Jessop could not define the origin of glioma as taking place in the nuclear layers, because there was a marked dissimilarity between the cells of the new growth and those of the retinal layer; and because of the slight reaction produced by the presence of the tumor cells in the retina. Following Cohnheim, he thinks the origin is from some developmental embryonic tissue. This would account for both eyes being affected so frequently (twenty per cent), and in such cases the growth starting in both eyes separately.

He finds no reason for supposing this tumor to be a carcinoma, either pathologically or clinically; on the contrary, his specimens seem to indicate it to be a sarcoma and it is to be classified as an endothelioma, as the retina surely contains sufficient endothelial tissue to give rise to such a tumor.

He does not attempt, from his own results, to establish a rule as to the prognosis, for in his six cases the intraocular gave one hundred per cent of recoveries after the removal of the eye, and the extraocular only twenty-five per cent. Nevertheless, he safely presages that success follows the intraocular cases, while it is seldom that any operative procedure can save the patient's life in the extraocular, and there will generally be a recurrence of the malady. As recurrence takes place rapidly, there is little to fear if the orbit is healthy three months after the excision of the globe. So far, no case is reported in which glioma has undergone a spontaneous cure. Hence the neglected or delayed cases must have a fatal issue. In enucleating the globe it is important that the nerve should be excised as far back as possible.

A CASE OF TETANUS FOLLOWING INJURY OF THE EYE.

Geuth (*Zeitschrift f. Augenheilk,* January, 1903) describes a case of cephalic tetanus as a result of an injury to the eyeball and lid. Despite repeated injections of tetanus antitoxin, the patient died, during a convulsion, on the seventeenth day after the injury. At the autopsy a knife blade, five centimeters long and one and one-half centimeters broad was found sticking in the antrum of Highmore and projecting four millimeters out of the orbital tissues below. The point of the knife had been forced past the roots of the last molar tooth, through the alveolar process, into the gum. The foreign body, which was entirely unsuspected, had carried in the tetanus organisms, which had multiplied rapidly, away from the air, as the wound in the lid had been immediately sutured, and had produced a hemorrhagic empyema of the antrum. Geuth calls attention to the necessity of careful examinations of all wounds of the eye and orbit for the remains of foreign bodies, a maxim which Berlin and Rose have repeatedly urged.

LARYNGOLOGY.

By WILLIS SIDNEY ANDERSON, M. D., Detroit, Michigan.
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A CASE OF ADENOIDS WITH MALARIA.

Walter F. Chappell (*New York Medical Record,* March 21, 1903) reports a case of adenoids which developed in an infant one month after birth. When the child was five months old ten small pieces of lympoid tissue were removed from the nasopharynx. About two weeks after the operation the child became restless and developed a daily fever, which reached 105° in the evening of the seventh day. A diagnosis of malaria was made and quinin was given with good effect, in four grain doses one hour before feedings. A blood examination revealed malaria. The baby was known to have been bitten on the cheek by a mosquito. Thirty mosquitoes from the locality where the family resided during the summer were examined and out of the number three of the malaria-bearing variety were found. The case is interesting as it shows how an accidental infection following an adenoid operation may give rise to a high temperature which may be mistaken for direct infection at the site of the operation. Malaria may follow any operation as a rare sequela. Two cases of postoperative malaria were recently reported by Doctor John T. Moore, in the above journal for February 21, 1903.

SOME CASES OF ASTHMA TREATED BY THE REMOVAL OF THE MIDDLE TURBINATE.

T. W. Moore (*The Laryngoscope,* July, 1903) reports four cases relieved by removal of the middle turbinal. The author is governed wholly by the diseased condition of the nose, operating only when the intranasal condition demanded treatment independent of the asthma.

PERICHONDRITIS OF THE LARYNX, WITH REPORT OF A CASE.

Emil Mayer (*New York Medical Record,* July 25, 1903) reports a case following typhoid fever in a woman aged twenty-eight years. He gives a resume of eight cases recorded in this country during the past two years.

HYPERTROPHY OF THE LYMPHOID RING OF THE PHARYNX AND ITS SURGICAL TREATMENT.

H. Hoyle Butts (*Medical Record,* January 17, 1903) describes the structures included in Waldeyer's ring, and calls attention to the frequency with which the faucial and pharyngeal tonsils are hypertrophed in children. He enumerates the symptoms observed when the lymphoid tissue in the vault is hypertrophied, and advises digital examination to ascertain the amount and character of the growths. Removal of the growths in a thorough manner, under a general anesthetic, is advocated. The author has a preference for the Brandigee forceps and the Goldstein curets. In persistent primary or alarming secondary hemorrhage, after the simpler methods have failed, tamponage of the nasopharynx is advised.

Hypertrophy of the faucial tonsils is described, and the methods mentioned for their removal are: By the tonsillotome; ignipuncture; the galvanocautery, and the cold wire snare. In children the tonsillotome, under a general anesthetic, is advocated. In adults one of the other methods is to be preferred, as it lessens the danger of serious hemorrhage. Hypertrophy of the lymphoid tissues at the base of the tongue is next considered, and the symptoms described. Special mention is made of the sensation of foreign body in the throat, and of cough and blood in the sputum. The destruction of the tissue by the galvanocautery, under cocaine anesthesia, is advocated.

The same author, in an article entitled "Intranasal Obstruction and Its Treatment" (*Medical Record,* April 11, 1903), gives at some length the causes and treatment of the various obstructions to nasal breathing, such as acute and passive hyperemia, foreign bodies, rhinitis, hypertrophica, ecchondrosis, and exostosis of the nasal septum, deflections of the cartilaginous and bony septum, abscess of the septum and nasal polypi. The two articles emphasize the importance of correcting any condition that interferes with normal nasal breathing.

CONGENITAL LARYNGEAL STRIDOR.

James E. Newcomb (*New York Medical Record,* July 25, 1903) describes this rare form of stridor. It usually comes on within a few days of birth, continuing for a certain period, measured usually in months, but possibly in years, apparently not doing the child much if any injury, and finally subsiding of its own accord, without sequelæ. The following hypotheses have been advanced to account for the conditions:

(1) Thymus enlargement causing pressure.

(2) Acquired brain lesion causing anatomical deformity.

(3) Cicatricial bands across the larynx.

(4) Lack of development of the cortical centers of respiration, especially of the laryngeal centers.

(5) Posticus paralysis.

(6) Muscular spasm, either glottic, or subglottic, and possibly phrenic.

(7) Adenoids.

(8) Congenital deformity of the superior laryngeal aperture, aided by the flaccidity of the parts in infancy but not entirely dependent thereon. As a rule the stridor passes off by the end of the second year, but in weakly children it may lead to thoracic distortion and prove fatal. The treatment should be of a general tonic and hygienic nature, aided by alkaline sprays and eucalyptus inhalations. Special attention should be given to any abnormality of the air passages, or reflex irritation.

DERMATOLOGY.

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HERPES PROGENITALIS.

Doctor Aronstam (*Medical Age,* Volume XX, Number XXIII) discusses the etiology, symptomatology, pathology and treatment of herpes progenitalis.

After enumerating the various anatomic locations upon which these lesions may be found, he divides them into two varieties: (1) Due to a peripheral neuritis, and (2) Due to local vasomotor paralysis, and having less marked subjective symptoms than the first.

The etiology is subdivided under twelve heads, as follows: (a) Neuroses of hereditary type; (b) Debilitating diseases; (c) Autotox emias; (d) Drug intoxications, including alcohol; (e) Senile degeneration; (f) Acquired neuroses and psychoses; (g) The different dyscrasiæ and cachexiæ (practically included under (b); (h) Local conditions; (i) Local overexcitations; (j) Individual predisposition or idiosyncrasy; (k) Reflexly by various causes; (1) A special bacillus.

Under the head of symptomatology and differentiation there is nothing particularly new.

Regarding the morbid anatomy there is likely to be a pathologic state of the local peripheral nerve-endings as a *peripheral neuritis* or a local *vasomotor* paralysis; the latter condition following the former.

"The inflammation takes place in the epineurium, comprising the neural cells or parenchyma to such an extent as to induce a curtailment in the conductibility of the nerve current. The nervi vasorum, deprived of their functional activity, engender trophic disturbances in the tunic of the capillaries, which soon become manifested by a diapedesis and exudation of serum between the cutis vera and the layers of the epidermis, resulting in the formation of vesicles."

The treatment should be directed by the cause, with a good prognosis for complete and permanent cure, except in the type of so-called "darthic diathesis," in which cases there is an absolute tendency to recurrence. General and constitutional treatment is demanded quite as frequently as are local applications, while circumcision may be necessary.

THERAPEUTICS.

BY DELOS LEONARD PARKER, PH. B., M. D., DETROIT, MICHIGAN.
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POTASSIUM IODID IN MIGRAINE.

DOCTOR J. R. CLEMENS (*Therapeutic Gazette*, May, 1903) says: "Owing to an empiricism bred of despair, I have been prescribing potassium iodid to the exclusion of all other drugs in cases of migrainous headaches, and my results have been so marvelous that I make bold to send you this paper on the subject, in the hope that some of your readers will test the efficacy of the drug I recommend, and thereby either confirm my statements and the claims of the drug to rank amongst specifics, or silence me."

The circumstances that led to the employment of this drug for the purpose here indicated were as follows: Doctor Clemens had become dissatisfied with the remedies ordinarily prescribed in the treatment of migraine, and began a search for others that might be of a more satisfactory nature. In doing this he made use of drugs that had the effect of reducing arterial tension.

He first used potassium nitrate and nitrite, and then sodium nitrite, but with unsatisfactory results, so far as relief to the headache was concerned. He next administered potassium iodid in doses of from five to ten grains three times a day, and found that under the influence of this salt the headache rapidly diminished, both in intensity and frequency, and at the end of two or three weeks disappeared completely.

Since first noting the good effects of potassium iodid in migraine, Doctor Clemens has used the drug in a large number of cases, and says he has not found a single case in which this remedy has failed to produce the effect desired.

EDITORIAL COMMENT.

ROENTGEN RAYS AND ULTRAVIOLET RAYS.

PROBABLY no subject in recent years has more completely enlisted the attention of the medical profession and the general public, or caused a greater degree of enthusiasm among a certain element than the treatment of disease by light rays. The interest manifested in this potent agency has indeed become widespread, and in many quarters extends to the domain of faddism, the tidal wave in some instances even proceeding to an extent calculated to make the whole system of light therapy seem extremely ridiculous.

Much valuable information is being published on the efficiency of light in the treatment of disease, but a great deal of balderdash is likewise appearing, principally in the periodical prints, about the gratifying results obtained by subjecting lupus, cancer, and various skin affections to *x*-ray influence. Unfortunately, subsequent investigation has not infrequently demonstrated that the operator, with commendable impartiality or blissful ignorance, had directed the current through the tube now in one direction and now in another, so that during part of the time the patient was subjected to the virtues of *x*-rays and part of the time to the healing power of a susceptible imagination. The responsibility for this lamentable uncertainty of effect should not invariably be charged to the physician, however, as frequently the blame may be traced to the unscrupulous or unscientific manufacturer. Still, the latter has not been as successful in imposing upon the credulous practician as some of the venders of ultraviolet outfits. The test for the production of the Roentgen rays is comparatively simple and positive, but the means for determining the presence of ultraviolet rays are not usually at the command of the ordinary physician. Instances have been reported of physicians employing glass lenses to focus the rays of sunlight upon a diseased patch of skin by filtering them through a glass chamber containing a solution of copper, or by simply utilizing blue glass. Although these methods have foundation in truth, and are doubtless based upon the original experiments of Finsen, little credence has been accorded the certainty that glass permits the filtering of ultraviolet rays from the sun only in slight degree, a fact which has been verified by experiments with various thicknesses of this medium. Instances are also on record wherein light emanating from the glass-covered filament of an electric lamp has been employed for the same purpose.

Finsen's pioneer work embraced a series of experiments to determine the effect of light on earthworms, which he enclosed in a box covered half with red glass and half with blue. The light coming through the blue glass irritated the worms so that they always sought shelter under the red glass. He then experimented with a chameleon, placing it so that half of its body lay beneath the red glass and half beneath the blue. That portion covered by the red glass remained nearly white, while that covered by the blue glass altered its pigment to the extent of being turned jet black, thus preventing the irritation. Finsen's first apparatus for treating patients was made of a thin glass flask in the shape of a plano-convex lens, which was filled with light blue ammoniacal sulphate of copper and mounted on a frame. The sun's rays were filtered through this device and focused on the affected part, but notwithstanding favorable results were obtained by this method the time required for its application was too great. Having found that the blue solution cut off most of the ultraviolet rays the flask was filled with plain water, and finally this apparatus was abandoned for the arc lamp and the quartz lens, a combination affording sixty per cent of ultraviolet rays.

As already stated, misleading articles on light rays by persons not thoroughly familiar with the subject often gain admission to medical journals. Frequently, with the desirable effect of rendering the hints doubly helpful, the shallow intellect of the author is somehow or other influenced, possibly through a species of telepathy, by inspiration from the purveyor, a stimulus which aids materially in producing an effusion laudatory of certain wares, although often destined to provoke laughter when considered from a scientific viewpoint. The physician who could thereby be hoodwinked into purchasing worthless apparatus must surely be unfamiliar with the physics of light.

Willey, of the University of Michigan, at the request of the editor, has prepared a paper on the subject under consideration especially for the present number of this journal, a perusal of which in another department will acquaint the reader with many facts of interest and instruction regarding the constitution of light and the applicability of this important acquisition to the equipment of the modern therapist.

A FAREWELL GATHERING.

An enjoyable midsummer function of the Ann Arbor Medical Club was the special meeting to take leave of Doctors James R. Arneill and Willard H. Hutchings, who severed their connection with the University of Michigan at the close of the summer session of the medical department. These gentlemen had been identified with the teaching force of the college for several years, the former on the medical staff and the latter on the surgical staff. Doctor Arneill has located in Denver, where he will practice medicine and occupy a professorial chair in the University of Colorado. Doctor Hutchings will devote a year to study in Germany, specializing in surgical pathology. The festive occasion contemplated a dainty repast, with a feast of reason and a flow of soul as flanking supports. Everyone contributed his mite, in reminiscence or speech, to render the meeting delightfully entertaining, and the sentiments expressed bore testimony of heartfelt interest in the future welfare of the departing members. Doctor Arneill, who has been connected with this journal as associate editor in the department of Medicine for over a year, is succeeded by Doctor George Dock, the well-known professor of Medicine in the University of Michigan.

CONTEMPORARY.

MEDICOHISTORICAL CRITIQUES.

[SAINT LOUIS MEDICAL AND SURGICAL JOURNAL.]

It is certainly true that the majority of physicians who are not totally absorbed in their professional engagements and that those who occasionally go beyond the portals of their offices, colleges, or who do not spend all their time in their medical libraries take an occasional dip into literature and are certainly benefited by these little excursions into the world of poetry, fiction, or such other literature as is not wholly medical in its nature. It is this change in literary pabulum which broadens ideas and, in fine, adds much of human to the physician's nature and makes him not only a congenial companion but sought after by intelligent people who read something more than the daily newspapers. This constitutes the class which furnishes not only good but appreciative listeners, provided that he who speaks has something to which it is worth listening. And, unless such an one reads and absorbs what he reads he becomes a very poor conversationalist instead of the brilliant one, which every professional man is expected to be whenever he dares enter within the charmed circle of intelligent society. It is not such a hard task to fit one's self for such a position and yet it requires some small degree of assiduity and perseverance as well as continuity of purpose to assume such a position, and to sustain it subsequently.

We have many physicians in this country who are not only well read, but are literateurs of no mean capacity. They are good writers, and have written volumes of fiction which are destined to live. There is but one style which has been neglected and which has been taken up with much success abroad, but more particularly in France. This is the medicohistorical critique. It is literary work which has added a large amount of interest to the dry details of history, and thus not only makes the record of events more interesting, but adds much of interest to facts which otherwise would be passed over as not worthy of any serious consideration. As these critiques are written they are positively fascinating and withal quite instructive from the fact that every point brought forward is supported by undoubted historic evidence obtained from obscure authors, personal memoirs and all such similar proofs as an assiduous search for and examination of church records and similar documents will furnish. He who undertakes to write such a chapter in history is confronted with a herculean task whose difficulties increase at every step. But, on the other hand, the interest involved in such a labor makes it a pleasant one and interest increases as the writer's critical acumen is exercised more and more as he advances in the pursuit of his subject, and as he endeavors to unravel some unexplained circumstances.

The best example of a writer of this character is Doctor Cabanés, who has been quite a prolific writer in this particular field. He has improved and his latest contributions are examples worthy of study and of imitation. It may be argued that this country does not possess the archives and other material which could be utilized for such an historical work. And yet in the older communities there exist parish registers which contain much, and there also exist many old letters full of interesting gossip and other articles which, if not available for immediate use, are valuable for furnishing indications as to the direction in which search is to be prosecuted. Something of this sort has been done in this country, but it has been very little indeed. Thus some twenty-five years ago quite an exhaustive paper was read before the American Laryngologic Society on the question as to the disease which killed George Washington, and a mass of evidence was brought forward to show that his trouble was cynanche tonsillaris, and the immediate cause of his death was too much bleeding. This shows that the task is not a hopeless one here, but offers very good opportunities to him who will undertake the task, and the time is very nearly ripe for some one to do this. The profession is ready for such work and it had best be done now when it is a more easy matter, than to begin later when it will be difficult.

MEDICAL NEWS.

THE PRINCIPLES OF ETHICS.

The American Medical Association adopted the following principles of ethics at the New Orleans meeting:

Chapter I.—The Duties of Physicians to Their Patients.

Section I.—Physicians should not only be ever ready to obey the calls of the sick and the injured, but should be mindful of the high character of their mission and of the responsibilities they must incur in the discharge of momentous duties. In their ministrations they should never forget that the comfort, the health and the lives of those entrusted to their care depend on skill, attention and fidelity. In deportment they should unite tenderness, cheerfulness and firmness, and thus inspire all sufferers with gratitude, respect and confidence. These observances are the more sacred because, generally, the only tribunal to adjudge penalties for unkindness, carlessness or neglect is their own conscience.

SECTION 2.—Every patient committed to the charge of a physician should be treated with attention and humanity, and reasonable indulgence should be granted to the caprices of the sick. Secrecy and delicacy should be strictly observed; and the familiar and confidential intercourse to which physicians are admitted, in their professional visits, should be guarded with the most scrupulous fidelity and honor.

SECTION 3.—The obligation of secrecy extends beyond the period of professional services; none of the privacies of individual or domestic life, no infirmity of disposition or flaw of character observed during medical attendance should ever be divulged by physicians, except when imperatively required by the laws of the state. The force of the obligation of secrecy is so great that physicians have been protected in its observance by courts of justice.

SECTION 4—Frequent visits to the sick are often requisite, since they enable the physician to arrive at a more perfect knowledge of the disease, and to meet promptly every change which may occur. Unnecessary visits are to be avoided, as they give undue anxiety to the patient; but to secure the patient against irritating suspense and disappointment the regular and periodical visits of the physician should be made as nearly as possible at the hour when they may be reasonably expected by the patient.

SECTION 5.—Ordinarily, the physician should not be forward to make gloomy prognostications, but should not fail, on proper occasions, to give timely notice of dangerous manifestations to the friends of the patient; and even to the patient, if absolutely necessary. This notice, however, is at times so peculiarly alarming when given by the physician, that its deliverance may often be preferably assigned to another person of good judgment.

SECTION 6.—The physician should be a minister of hope and comfort to the sick, since life may be lengthened or shortened not only by the acts but by the words or manner of the physician, whose solemn duty it is to avoid all utterances and actions having a tendency to discourage and depress the patient.

SECTION 7.—The medical attendant ought not to abandon a patient because deemed incurable; for continued attention may be highly useful to the sufferer, and comforting to the relatives, even in the last period of the fatal malady, by alleviating pain and by soothing mental anguish.

SECTION 8.—The opportunity which a physician has of promoting and strengthening the good resolutions of patients suffering under the consequences of evil conduct ought never to be neglected. Good counsels, or even remonstrances, will give satisfaction, not offense, if they be tactfully proferred and evince a genuine love of virtue, accompanied by a sincere interest in the welfare of the person to whom they are addressed.

CHAPTER 2.—THE DUTIES OF PHYSICIANS TO EACH OTHER AND TO THE PROFESSION AT LARGE.

ARTICLE I.—DUTIES FOR THE SUPPORT OF PROFESSIONAL CHARACTER.

SECTION 1.—Everyone on entering the profession, and thereby becoming entitled to full professional fellowship, incurs an obligation to uphold its dignity and honor, to exalt its standing and to extend the bounds of its usefulness. It is inconsistent with the principles of medical science and it is incompatible with honorable standing in profession for physicians to designate their practice as based on an exclusive dogma or a sectarian system of medicine.

SECTION 2.—The physician should observe strictly such laws as are instituted for the government of the members of the profession; should honor the fraternity as a body; should endeavor to promote the science and art of medicine and should entertain a due respect for those seniors who, by their labors, have contributed to its advancement.

SECTION 3.—Every physician should identify himself with the organized body of his profession as represented in the community in which he resides. The organization of local or county medical societies, where they do not exist, should be effected, so far as practicable. Such county societies, constituting as they do the chief element of strength in the organization of the profession, should have the active support of their members and should be made instruments for the cultivation of fellowship, for the exchange of professional experience, for the advancement of medical knowledge, for the maintenance of ethical standards, and for the promotion in general of the interests of the profession and the welfare of the public.

SECTION 4.—All county medical societies thus organized ought to place themselves in affiliation with their respective state associations, and these, in turn, with the American Medical Association.

SECTION 5.—There is no profession from the members of which greater purity of character and a higher standard of moral excellence are required than the medical; and to attain such eminence is a duty every physician owes alike to the profession and to patients. It is due to the patients, as without it their respect and confidence cannot be commanded, and to the profession because no scientific attainments can compensate for the want of correct moral principles.

SECTION 6.—It is incumbent on physicians to be temperate in all things, for the practice of medicine requires the unremitting exercise of a clear and vigorous understanding; and in emergencies—for which no physician should be unprepared—a steady hand, an acute eye, and an unclouded mind are essential to the welfare and even to the life of a human being.

SECTION 7.—It is incompatible with honorable standing in the profession to resort to public advertisements or private cards inviting the attention of persons affected with particular diseases; to promise radical cures; to publish cases or operations in the daily prints, or to suffer such publications to be made; to invite laymen (other than relatives who may desire to be at hand) to be present at operations; to boast of cures and remedies; to adduce certificates of skill and success, or to employ any of the other methods of charlatans.

SECTION 8.—It is equally derogatory to professional character for physicians to hold patents on any surgical instruments or medicines; to accept rebates on prescriptions or surgical appliances; to assist unqualified persons to evade the legal restrictions govering the practice of medicine; or to dispense, or promote the use of, secret medicines, for if such nostrums are of real efficacy, any concealment regarding them is inconsistent with beneficence and professional liberality, and if mystery alone give them public notoriety, such craft implies either disgraceful ignorance or fraudulent avarice. It is highly reprehensible for physicians to give certificates attesting the efficacy of secret medicines, or other substances used therapeutically.

ARTICLE 2.—PROFESSIONAL SERVICES OF PHYSICIANS TO EACH OTHER.

SECTION 1.—Physicians should not, as a general rule, undertake the treatment of themselves, nor of members of their family. In such circumstances they are peculiarly dependent on each other; therefore, kind offices and professional aid should always be cheerfully and gratuitously afforded. These visits ought not, however, to be obstrusively made, as they may give rise to embarrassment or interfere with that free choice on which such confidence depends.

SECTION 2.—All practicing physicians and their immediate family dependents are entitled to the gratuitous services of any one or more physicians residing near them.

SECTION 3.—When a physician is summoned from a distance to the bedside of a colleague in easy financial circumstances, a compensation, proportionate to traveling expenses and to the pecuniary loss entailed by absence from the accustomed field of professional labor, should be made by the patient or relatives.

SECTION 4.—When more than one physician is attending another, one of the number should take charge of the case, otherwise the concert of thought and action so essential to wise treatment cannot be assured.

SECTION 5.—The affairs of life, the pursuit of health and the various accidents and contingencies to which a physician is peculiarly exposed sometimes require the temporary withdrawal of this physician from daily professional labor and the appointment of a colleague to act for a specified time. The colleague's compliance is an act of courtesy which should always be performed with the utmost consideration for the interest and character of the family physician.

ARTICLE 3.—THE DUTIES OF PHYSICIANS IN REGARD TO CONSULTATIONS.

SECTION 1.—The broadest dictates of humanity should be obeyed by physicians whenever and wherever their services are needed to meet the emergencies of disease or accident.

SECTION 2.—Consultations should be promoted in difficult cases, as they contribute to confidence and more enlarged views of practice.

SECTION 3.—The utmost punctuality should be observed in the visits of physicians when they are to hold consultations, and this is generally practicable, for society has been so considerate as to allow the plea of a professional engagement to take precedence over all others.

SECTION 4.—As professional engagements may sometimes cause delay in attendance, the physician who first arrives should wait for a reasonable time, after which the consultation should be considered as postponed to a new appointment.

SECTION 5.—In consultations no insincerity, rivalry, or envy should be indulged; candor, probity and all due respect should be observed toward the physician in charge of the case.

SECTION 6.—No statement or discussion of the case should take place before the patient or friends, except in the presence of all the physicians attending, or by their common consent; and no opinions or prognostications should be delivered which are not the result of previous deliberation and concurrence.

SECTION 7.—No decision should restrain the attending physician from making such subsequent variations in the mode of treatment as any unexpected change in the character of the case may demand. But at the next consultation reasons for the variations should be stated. The same privilege, with its obligation, belongs to the consultant when sent for in an emergency during the absence of the family physician.

SECTION 8.—The attending physician, at any time, may prescribe for the patient; not so the consultant, when alone, except in a case of emergency or when called from a considerable distance. In the first instance the consultant should do what is needed, and in the second should do no more than make an examination of the patient and leave a written opinion under seal, to be delivered to the attending physician.

SECTION 9.—All discussions in consultation should be held as confidential. Neither by words nor by manner should any of the participants in a consultation assert or intimate that any part of the treatment pursued did not receive his assent.

SECTION 10.—It may happen that two physicians cannot agree in their views of the nature of a case and of the treatment to be pursued. In the event of such disagreement a third physician should, if practicable, be called in. None but the rarest and most exceptional circumstances would justify the consultant in taking charge of the case. He should not do so merely on the solicitation of the patient or friends.

SECTION 11.—A physician who is called in consultation should observe the most honorable and scrupulous regard for the character and standing of the attending physican, whose conduct of the case should be justified, as far as can be, consistently with a conscientious regard for truth, and no hint or insinuation should be thrown out which could impair the confidence reposed in the attending physician.

[TO BE CONTINUED.]

MINOR INTELLIGENCE.

THE bill which contemplated the establishment of an osteopathic examining board in New Jersey has been defeated in the legislature.

THE physicians of Montreal have decided to petition the common council to appropriate a sum for the erection of a tuberculosis hospital in that municipality.

THE laying of the corner stone of the new medical building at Drake University, Des Moines, Iowa, were held July 10. The address of the occasion was delivered by General Francis M. Drake.

VIENNA boasts of one thousand nine hundred thirteen medical students, but this number is no greater than that enrolled on the registers of the medical colleges of some of our American cities.

THE following have been appointed city physicians of Detroit: Doctors George W. Augustin, William S. Brownell, Moses A. Fechheimer, John W. Hoffman, William P. Melody and John H. Neary.

BURRILL believes, after examining statistics of different countries, that from eighty to ninety per cent of human beings are afflicted with some form of tuberculosis before reaching the age of forty years.

THE health authorities of Manila report the death rate of that city to be steadily decreasing. In 1900 a mortality of 46.80 per one thousand inhabitants was registered, while for the first quarter of 1902 the rate was only 22.17.

CHRISTIAN science is responsible for a death in Toronto. A member of the cult was recently convicted of manslaughter for refusing medical attendance to his sixteen-year-old son, who succumbed to diphtheria. The case was appealed without avail.

THE following officers will have charge'd affaires of the American Association of Genitourinary Surgeons during 1904: President, Doctor Edwin C. Burnett, Saint Louis; vicepresident, Doctor F. Tilden Brown, New York; secretary and treasurer, Doctor John Van der Poel, New York.

THE Ann Arbor Medical Club elected the following officers at its recent annual meeting: President, Doctor Cyrenus G. Darling; vicepresident, Doctor John A Wessinger; secretary-treasurer, Doctor John William Keating. Committee on program: Doctors Darling, Carrow, Loree, and Keating. Committee on meeting: Doctors Burr and J. F. Breakey. Committee on membership: Doctors Wessinger, Blair, and Sleight.

INDIAN statistics show that plague is especially disastrous to the Hindoo. During the period elapsing between the years 1896 and 1901 over 600,000 cases were reported, five hundred twenty-five thousand of which terminated fatally.

IMPURE drinking water is held responsible for an epidemic of typhoid fever which recently appeared in Pittsburg. The disease reaped a fearful harvest, claiming as many as one hundred victims a week during one period of the siege.

THE dangers entailed in speeding the modern automobile are responsible for a new facial expression known as the automobile face, says Henri Fornier, the noted French physician. In veterans of the sport the muscles become fixed, and the eyes, ears and lips assume a tense, set aspect.

AT the annual gathering of the Northern Tri-State Medical Association, which was held recently at Montpelier, Ohio, the following officers were elected for the ensuing year: President, Doctor W. F. Shumaker, Butler, Indiana; secretary, Doctor J. R. Williams, White Pigeon, Michigan; treasurer, Doctor A. G. Holbrook, Coldwater, Michigan.

SEVENTEEN nurses in the county hospital at Milwaukee, Wisconsin, recently severed their connection with the institution because discipline was too strictly enforced. The head nurse was the obnoxious personage, and when request for her dismissal was denied by the superintendent the young women immediately resigned. A strike among hospital nurses is rather an unusual occurrence.

AFTER about twenty-four years of unceasing effort, fifteen thousand dollars have finally been collected for the purpose of erecting a suitable monument to the memory of Benjamin Rush. In 1879 a movement was inaugurated at the New Orleans meeting of the American Medical Association to found the memorial, but until recently a sufficient amount had not been collected to insure the undertaking.

THE recent election of the Ontario Medical Association resulted in the following officers being chosen for the ensuing year: President, Doctor J. F. W. Ross, Toronto; vicepresidents, Doctor William Burt, Paris, Doctor J. L. Turnbull, Goderich, Doctor J. C. Connell, Kingston, and Doctor J. H. Elliott, Gravehurst; secretary, Doctor C. P. Lusk, Toronto; treasurer, Doctor A. R. Gordon, Toronto.

THE Association of Medical Officers of the Army and Navy of the Confederacy recently convened in New Orleans. Doctor Deering J. Roberts of Nashville, Tennessee, was reelected secretary. The honor contemplated in the presidency was conferred upon Doctor J. R. Gildersleeve, of Tazewell, Virginia. The president elect has been chief executive of the Medical Society of Virginia and during his incumbency displayed remarkable ability in increasing the membership of that organization. The Association of Medical Officers will undoubtedly experience an augmentation in numbers through the doctor's influence.

Cremation as a means of disposing of the dead is gaining favor in England. Nine crematories are already established in that country, and many of the laity commend this method of bodily destruction, while physicians almost unanimously endorse the method as sanitary and practical.

The old Jefferson Medical College, which was erected in 1828, will soon be demolished to make room for the new College Hospital. The present hospital, which was established in 1877, will also be razed, as the structure contemplated will be sufficiently large to occupy the sites of both old buildings.

Fanitis is a term term coined to designate an affliction caused by the cooling breezes of the electric fan. Frequenters of summer gardens and cafes are the principal victims of the distressing condition, the subjective symptoms of which are those contemplated in the old-fashioned cold or neuralgia.

Christian scientists desiring to practice their healing powers in Virginia will hereafter be subjected to an examination before the State Board of Medical Examiners, and will be compelled to conform to the regular requirements. The Virginia legislature recently passed a bill to this effect, and its action has been highly commended.

The American Surgical Association elected the following officers for the ensuing year: President, Doctor N. P. Dandridge, Cincinnati; vicepresident, Doctor Charles A. Powers, Denver; secretary, Doctor Dudley P. Allen, Cleveland; treasurer, Doctor George R. Fowler Brooklyn; recorder, Doctor Richard R. Harte, Philadelphia.

Doctor S. Weir Mitchell has expressed himself as antagonistic to the prominent position given to college athletics at the present time, and seems to think that mental development suffers as a consequence. He particularly condemns the game of football on the ground that many cases of invalidism are due to the strenuousness of the sport.

The enjoyment of a roof garden is now afforded tuberculosis patients at the Philadelphia Hospital. The garden is about two hundred feet long by thirty feet wide, and is commodious enough to accommodate from eighty to one hundred consumptives. The patients will live on the roof, protection against inclement weather being insured by canvas covering.

During the ensuing year the following officers will represent the Minnesota State Medical Society: President, Doctor Charles L. Greene, Saint Paul; first vicepresident, Doctor Charles Hills, Pine Island; second vicepresident, Doctor Jennette McLaren, Saint Paul; third vicepresident, Doctor W. L. Darling, Saint Peter; secretary, Doctor Thomas McDavitt, Saint Paul; treasurer, Doctor R. J. Hill, Minneapolis. Doctor W. A. Hall, Minneapolis, was elected a member for two years to the house of delegates of the American Medical Association, and Doctor William Davis, of Saint Paul, was chosen as holdover delegate.

An epidemic of dengue is reported to be prevalent in Honolulu and other parts of the Hawaiian Islands. Suspension of court was necessitated recently in Hilo on account of several lawyers and jurors being stricken with this disease, the causative factor in the transmission of which is thought to be the mosquito.

McGill University is the recipient of a bequest of sixty thousand dollars from the late James Cooper, who gave the money to establish a chair of internal medicine at that institution. The gift, which will not be available until two years after the demise of the testator, has been designated the Cooper Endowment Fund.

Colzi, of Florence, recently succumbed to lockjaw. The doctor was injured while enjoying a hunt, and amputation of an arm was rendered necessary. He endured the operation without an anesthetic, and volunteered advice during the procedure. Three months of great suffering, however, terminated in his demise.

The directors of the Lebanon Hospital, of New York City, intend to erect a building in connection with that institution for convalescent patients. A subscription of five thousand dollars was lately received from the United Hebrew Charities of New York to further the project. The annex will be accessible to all classes, regardless of creed or country.

Typhoid fever, as a result of the recent flood, is reported to be greatly on the increase in Saint Louis. Twenty serious cases are confined in Saint Margaret's Hospital, while ten cases are being attended in Saint Joseph's Hospital. Nearly all the hospitals in the city have some patients stricken with the disease, and a total of sixty-nine cases have been reported thus far.

Mrs. Vanderbilt, widow of the late Cornelius, recently formally presented to the trustees of the Newport Hospital a ward, erected on the hospital property, in memory of her husband. In addition to the gift, which cost $250,000, and which is intended for needy poor, a generous endowment has been provided. The hospital has been the recipient of over $500,000 from various members of the Vanderbilt family.

The Ohio State Medical Society met at Dayton, June 3-5, 1903. The registrations numbered four hundred nine. There are over eight thousand physicians in Ohio who are eligible to membership, but the society contains less than a thousand on its rolls. The papers were excellent but were not sufficinetly numerous to occupy a three days' session with their reading and discussion. The following officers were elected: President, Doctor Charles Hamilton, Columbus; vicepresidents, Doctors W. W. Pennell, Fredericktown, F. M. Wright, Troy, E. R. McClellan, Toledo, and H. Chisholm, Marion; secretary-treasurer, Doctor P. M. Foshay, Cleveland. Delegates to the National Council: Doctor J. S. Beck, Dayton, C. A. L. Reed, Cincinnati, and P. M. Foshay, Cleveland. The next meeting will be held in Cleveland.

THE consolidation of the *New York Medical Journal* and the *Philadelphia Medical Journal* has been effected. The publication will be issued from New York City with branch offices in Philadelphia and Chicago. In the announcement directing attention to the change the editors state that "in bringing about the consolidation the publishers have not been actuated solely by a desire to enlarge the subscription list, though they do not profess to have been unmindful of the advantage to be derived from such accretion. They have cherished the far higher purpose of combining and furnishing to an enlarged circle of readers all the features thought to be of special value in the two journals."

RECENT LITERATURE.

REVIEWS.

REFERENCE HANDBOOK OF THE MEDICAL SCIENCES: VOLUME VI.*

THIS is the largest volume of the series yet published. It embraces articles at length on Muscle, Myopia, Nasal Cavities, Nasal Hygiene, Neck, Nerves, Neurone, New-Born, Occcupation, Ophthalmoscope, Optometry, Pancreas, Pelves, Perineum, Pharmacopeia, Pharynx, Photomicrography, Pneumonia, Poisonous Plants and Reptiles, Prostate, Ptomains, Pulse, Recruits, Reparative Surgery, Resection of Joints, Roentgen Rays, and very many shorter articles on other subjects naturally coming within the alphabetical limits. A comparison of many of the articles contained by these handbooks with monographs on the same topics separately published elsewhere, results in a most favorable showing by this series.

*By various writers. Edited by Albert H. Buck, M. D., New York. Illustrated by chromolithographs and seven hundred sixty-three halftones and wood engravings. William Wood & Company, New York, 1903.

A SYSTEM OF PHYSIOLOGIC THERAPEUTICS.*

THIS work consists of a series of eleven volumes on therapeutic remedies other than drugs, the first five of which embrace the following subjects:

Volumes I and II—*Electrotherapy*. By George W. Jacoby, M. D. Part I—Electrophysics. Part II—Apparatus required for the therapeutic and diagnostic use of electricity. Part III—Electrophysiology and electropathology. Part IV—Electrodiagnosis and electroprognosis. Part V—Electrotherapeutics.

Volumes III and IV—*Climatology—Health Resorts—Mineral Springs*. By F. Parkes Weber, M. D., and Guy Hinsdale, M. D. Part

I—Physics, physiology, and general therapeutics of climate. Part II—Description of health resorts. Part III—Climatotherapeutics.

Volume V—*Prophylaxis—Personal Hygiene—Civic Hygiene—Care of the Sick.* By Joseph McFarland, M. D. *et al.* Part I—The origin and prevention of disease. Part II—Civic hygiene. Part III—Domestic and personal hygiene; nursing and care of the sick room.

In a foreword the author states that the System is the first effort in the English language to cover this department of therapeutics in a thorough and harmonious manner. It is intended to be practical rather than encyclopedic, and consequently history and references to literature are infrequent. Each volume is a compact and complete book, but is blended to form a part of the organic whole. The first five hundred pages of the series discuss the question of electricity in medicine, beginning with the fundamental conceptions of the force and proceeding to an exhaustive consideration of frictional and dynamic electricity, after which other divisions of the subject are introduced. Five chapters are devoted to the apparatus required for the diagnostic and therapeutic use of electricity. The third and fourth volumes deal with the fundamental principles underlying the application of climates, health resorts, and mineral springs in the prevention and treatment of disease. The fifth volume discusses the natural history of medicine, and gives information regarding the origin, dissemination, and prevention of disease. The volumes are thoroughly scientific and eminently practical and will afford valuable reference books for the general practician.

*A Practical Exposition of the Methods, Other than Drug-Giving, Useful in the Treatment of the Sick. Edited by Solomon Solis Cohen, A. M., M. D., Professor of Medicine and Therapeutics in the Philadelphia Polyclinic; Lecturer on Clinical Medicine at Jefferson Medical College, et cetera. Published by P. Blakiston's Son & Company, 1012 Walnut Street, Philadelphia, Pennsylvania. Price, eleven volumes, $22.00 net.

RADIUM.*

Radium is the title of a lecture delivered by William J. Hammer at a meeting of the American Institute of Electrical Engineers and the American Electrochemical Society held in New York City, April 17, 1903. The lecture is now published in book form by the D. van Nostrand Company, New York.

The author considers in a comprehensive way the knowledge that has been gained during the past few years on radioactive substances such as radium, polonium actinium, and thorium. He also considers the subjects of phosphorescent and fluorescent substances, the properties and applications of selenium and the treatment of disease by the ultra-violet rays. The work is appropriately illustrated.

*By William J. Hammer, Consulting Electrical Engineer, New York City. Published by D. van Nostrand Company, New York City. Price, $1.00.

The Physician and Surgeon

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ORIGINAL ARTICLES.

MEMOIRS.

THE MOST RATIONAL METHOD OF OPERATION FOR HEMORRHOIDS.

By EMIL RIES, M. D., CHICAGO, ILLINOIS.
PROFESSOR OF GYNÆCOLOGY IN THE POSTGRADUATE MEDICAL SCHOOL.

THE methods of operating on hemorrhoids most employed at the present time and most extensively presented in text-books are the following three:

(1) Clamp and cautery.
(2) Ligature.
(3) Injection.

The last named method is the pet method of the itinerant or sedentary quack, but is also used more or less extensively by surgeons all over the world. While its migratory apostles claim for it the advantages of quick, safe and painless recovery and infallible cure, the investigations of the more critically inclined have proven these claims to be grossly exaggerated—to use a mild term. But were the cautery or the ligature blessed with all the advantages which the partisans of the injection so liberally advertise for their method, the irregulars would not have so many willing victims. It is certain, however, that the injection method has run up such an enormous bill of disasters[1] that its bankruptcy is practically an accepted fact. Its use might be recommended or rather risked in a very limited number of slight cases of internal hemorrhoids, and then only under precautions which are very little less rigid than those to be observed with the other methods mentioned.

The cautery and the ligature methods, which in other and less neglected regions of the human anatomy have been obliged to abdicate, are still sovereign in this field. Their use implies that the operator wilfully abandons the great aim of all modern surgery, primary union of wounds, and is resigned to trust the accumulated sagacity of the cells in the struggle between gangrenous tissue and the organism.

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[1] For this bill see the account by Andrews.

Without in the least doubting the numerous reports of large series of cases treated and cured by these methods, it is perfectly justifiable to institute an enquiry into their status and the possibility of improvements. Or does the fact that Guy de Chauliac succeeded in stopping hemorrhage from amputation stumps by plunging them into boiling oil mean that this method is the acme of perfection and that we must not search any farther?

What sequence of events do we start when we treat hemorrhoids by the cautery? We first burn the tissue into a mass of charcoal, which adheres to the surface and stops up the blood-vessels and lymphatics and forms a dead aseptic substance. We know through the researches of Marchand and others how such a cover of charcoal behaves on the skin. It is evident that on the mucous membrane of the rectum the healing process under the eschar is vastly different from that on the skin, as in the rectum the eschar remains neither dry nor aseptic beyond a very limited time.

The eschar becomes softened and invaded by the microbic inhabitants of the rectum. It becomes decomposed, and when it disappears it does not pass away as a crust, which it formed at first, but comes away in minute particles as a slight discharge, beginning on about the third or fourth day after the operation. The rectum has not had time to form new mucous membrane under the eschar, which is now more properly called a slough. The edges of the mucous membrane have not been brought together and the gap between them is filled with granulation tissue covered with the slough. As a rule this granulation tissue is sufficient protection against infection from the septic slough over it. Finally the epithelium creeps over it and the patient is cured.

But the course of events is not always so smooth. There are several points along this course where a deviation into very undesirable paths is only too easy.

If the eschar has not been made sufficiently thick, dry and adherent, be it in consequence of improper degrees of heat or the use of wiping during the operation or after it by disturbing the eschar by introducing a tube or tampon into the rectum, the eschar may not occlude the blood-vessels sufficiently. Then the hemorrhages take place which haunt in such a disagreeable manner the statistics of the most expert manipulators of the cautery.

Next, when the eschar has become a slough, when what was a protecting layer has become a menacing and a dangerous burden, the wound in the rectum is, properly speaking, an ulceration with discharge, from which all the dangers of such a condition are to be dreaded, for instance, absorption of septic material, infection spreading into the underlying or into remote tissues, secondary hemorrhage, delay and irregularities of epithelial regeneration over the granulating surface. These troubles are not merely theoretical ones, though they do not always follow the operation.

Another point worth mentioning is the time necessary for complete recovery under the most favorable circumstances. Two weeks is a fair average to figure on, and few patients can leave the hospital before that time.

After the use of the ligature recovery takes place under similar disadvantages. The mass grasped in the ligature is dead tissue, which comes away as a slough in larger or smaller particles. If the suture material chosen is silk, it has to slough out. If it is catgut, it is not absorbed either because it is situated on the surface of the mucosa. It becomes decomposed. After the slough has come away, we have again an ulceration as above with the same possibilities of subsequent trouble. If a furrow is cut through the mucosa for the ligature, this furrow is another source of danger, as it is evidently an open wound exposed to the infectious contents of the bowel.

The wounds produced in these operations are as a rule small and therefore granulate over readily. Besides, the usual after treatment keeps bowel contents away from them as long as possible, according to the advice of some authors for a whole week. But this again is objectionable on account of the systemic troubles produced by such an artificial constipation.

The after treatment also includes usually some kind of a plug or tube in the rectum, the purpose of which is, first, to prevent hemorrhage, secondly, to allow of the escape of gas without disturbing the sphincter or the wounds over it. As to the hemorrhage, we have seen above that the plug is a two-edged sword, because its very introduction may seriously disturb the eschar. As to the escape of gas, it is a mistake to think that the tube is at all necessary. After dilatation of the sphincter has been performed to a degree sufficient for satisfactory exposure of the operative field, the subsequent escape of gas is by no means impeded by the sphincter. On the other hand, the plug is an exquisite instrument of torture and an abomination, to which few patients would submit if they knew beforehand what they are expected to endure.

The ligature method, according to general consent, should be used for internal hemorrhoids only; the cautery is employed for both internal and external hemorrhoids. Of other methods not mentioned so far we have to consider for a moment the simple excision of hemorrhoids, which is recommended now and then for both the internal and the external variety. It is evident that the method exposes to the risk of hemorrhage and that the recovery must take place with the formation of a septic ulcer, as described above, after the cautery.

In order to approach more closely the surgical ideal, an operation for hemorrhoids should fulfill the following requirements:

(1) It should lead to primary union.

(2) It should be applicable in all combinations of external and internal hemorrhoids with or without inflammation.

(3) It should preserve the natural configuration and function of the anus.

(4) It should insure quick and safe recovery with little or no pain.

There is only one method of which I know which accomplishes all of these ends in a satisfactory way. That method is the excision and suture of the hemorrhoids.

It must be stated here at the start that I am not speaking of the excision of the pile-bearing area, the so-called Whitehead operation, which for the majority of cases of hemorrhoids is a needlessly extensive operation. Besides, the Whitehead operation is only too liable to result in permanent injury to the function of the bowel, and even more frequently leads to a not at all indifferent eversion of the mucosa of the rectum.

For the method which I recommend I emphatically disclaim priority, because similar ones have been practiced for years and are being practiced today by a number of surgeons (Stimson, Schiff, Byford, and others). The reason why I wish to bring it before the profession again is that it is either not mentioned at all in text-books treating of this subject or mentioned in a mere casual way, as if it were an inferior or obsolete method. I know it to be a fact, that it is not generally known among the profession, and I am convinced that if its advantages are demonstrated in the proper way, it is sure to displace all other methods.

I carry out the operation in the following way:

On the second day before the operation the patient takes half an ounce of sulphate of magnesia, or some similar drug, so as to produce a number of soft stools. The patient is put on liquid diet and takes a bath, but need not enter the hospital. On the day before the operation the patient continues the liquid diet, enters the hospital, takes a bath; the bowel is washed out with soapsuds and the patient is shaved. If the case is one of inflamed hemorrhoids this whole preparation, except the liquid diet and the bath, is abandoned and the operation is performed without any further preparation.

On the following day, if the case is one of noninflamed hemorrhoids, the patient receives no breakfast and is put under a general anesthetic. If the patient has inflamed hemorrhoids and has not been prepared beforehand, the shaving is done after the patient is under the anesthetic. I place the patient in lithotomy position. Next the bowel is cleaned out with the gloved hand without flushing it. Then the sphincter is stretched gently, not broken. The exposed lower part of the rectum is then flushed with warm sterile water.

The hemorrhoids, be they external or internal, inflamed or not, are now grasped one after the other with a simple artery-forceps. This forceps is placed at the upper end of the hemorrhoids, beginning with the largest one, and the forceps is pulled on. The hemorrhoidal nodule is thereby stretched out. Now the nodule is encircled by two incisions in the longitudinal direction, in the axis of the bowel. The nodule is then excised completely as deeply as necessary, and all the thrombi that may be present are removed with it. Then a continuous running suture of fine catgut (I use cumol catgut), the stitches being placed close to the edges of the incision, unites the wound. The suture goes through the bottom of the wound and thereby stops all bleeding. The suture is begun at the uppermost end of the incision and, as soon as the first stitch is tied, the artery forceps is removed and the loose end of the first stitch is used to put the wound on the stretch. The small arteries which may be found spurting are not ligated or caught with artery-forceps before the suture, but the bleeding is stopped entirely by the suture. If the hemorrhage should be severe enough to obscure the field, the assistant should press a dry gauze-sponge on the bleeding vessel or vessels for a moment, but must not wipe the wound. I do not employ constant irrigation of the field. After the first nodule has been attended to in this way, the others are grasped, excised and sutured in the same way.

If a nodule, be it an external or internal one, is much enlarged by inflammation, it is not necessary to excise the whole mucous membrane or skin covering it. The incision may remove simply a small oval piece over the top of the tumor and the rest of the tumor can be dissected out. The suture then has to be placed particularly carefully, so as to leave no pockets. But, as a rule, there is little danger even in inflamed hemorrhoids of leaving too little tissue. It is easier to err in the opposite direction and to leave superfluous skin, which after the healing may show as little tags, which are neither pretty nor entirely indifferent. They may become a seat of irritation in consequence of retention of fecal matter behind them, and may lead to itching and eczematous conditions.

It is a distinct advantage of this operation that coexistent fistulas may be removed in the same operation. They also, if not accompanied by large abscesses, can be excised completely, the wound then being united by suture. The same holds good for fissure associated with hemorrhoids, which is excised and sutured in the same way.

After the removal of all hemorrhoids there is no hemorrhage and no raw surface. The skin is dusted with an aseptic powder, an aseptic pad is placed over the anus and the patient is returned to bed. Liquid diet is observed for the next three days. The dressing is renewed frequently, at least every six hours, and powder applied copiously. Patients who cannot urinate lying down are permitted to stand up. Thereby I avoid the use of the catheter in male patients. Morphin is sometimes used the first few hours after the operation, never afterwards.

On the third morning after the operation the patient receives a laxative, citrate or sulphate of magnesia, in small repeated doses until the desire to move the bowels is noticed. Then the anus is covered thick with aseptic vaselin, over which the first evacuations take place. After each evacuation the patient is douched off copiously with sterile water and the anus is covered with an ointment consisting of lanolin and vaselin in such proportion as to make a pretty thick ointment. The ointment ought to be applied cold, thereby relieving the patients to a very great extent of the burning feeling of which they sometimes complain after the first evacuations. After the bowels have moved the patients receive light diet. From the fourth day on the patients receive two tub-baths daily, which they enjoy greatly. At least every second day after the first evacuation a bowel-movement ought to be obtained. If they do not take place naturally a laxative is administered. Beginning with the day after the operation the patients are allowed to suit themselves as to getting up and walking around. Usually the patients can walk earlier than they can sit down. I advise them to sit on a rubber ring or on a hard chair rather than on a pillow, for obvious reasons. From the fourth or fifth day the patients may eat ordinary food, but I advise them to avoid fruits or vegetables that contain indigestible seeds.

On the sixth or seventh day the patient may leave the hospital and receives the following list of orders: See that the bowels move at least once a day. If they do not do so naturally, take some laxative (usually aromatic cascara). Take two baths a day for one week, one bath a day after that. Do not use paper, use wet cotton or a bath after defecation for two weeks. Attend to your business if you want to, but do not neglect your functions under any circumstances.

The results of this method of operating have been very gratifying to myself and to the patients. The practically painless course after the operation and the quick recovery are very often matters of surprise to the patients, who have listened to the tales of woe of sympathetic friends who have been operated on by other methods.

It remains for us to discuss to what extent this method meets the requirements mentioned above.

(1) Does it lead to primary union? As the method advised here unites the edges of the wound or wounds made, it would be considered the only reasonable and natural method in every part of the body except the rectum. The objection which has been raised against its use in the rectum is, that infection of the sutures is said to be almost certain to follow, because the field cannot be kept aseptic. But against this doctrine we have, first, the clinical experience which proves the possibility of primary union after this operation; secondly, comparison with the results of suture in other no less septic portions of the bowel sustains the statement that union of the edges of an incision in the rectum is possible without infection. I mention particularly the union after suture-anastomosis between bowel and stomach. It is proper to refer here also to the isolated suture of the rectum in cases of complete tear of the perineum. By avoiding continuous irrigation as well as wiping with sponges in the course of the operation we prevent the entrance of possible minute quantities of infectious material from the washed-out bowel into the opened underlying tissue. It is easy to keep the bowel free from fecal matter for forty-eight hours, and this time is perfectly sufficient for union to become firm enough so that no infection can take place afterwards. The catgut used is so thin that by the time the parts of thread which are not buried in the tissue may have become infected, the portions of catgut in the tissue itself are almost completely absorbed,

so that they cannot conduct infection into the deeper layers. Besides, the dangers of infection from a thread running from the mucosa through the whole thickness of the bowel is no longer dreaded as much as it used to be, since the Connell suture (executed even with nonabsorbable material) and my method of appendectomy[2] (which has now been carried out in forty cases without a single death or abscess following) have shown with what ease and regularity the organism takes care of minute perforations of the bowel wall.

(2) I have used the method in external and internal piles and all combinations thereof, and there has been no difficulty whatever in taking care of the inflamed cases as well as noninflamed ones. It might be urged that where an inflamed hemorrhoid is ulcerated there is great danger of infecting the suture. But as the ulcerated area can be excised freely without fingers or instruments coming in contact with it, this matter of ulceration presents no additional difficulties.

(3) As the lines of incision and suture are always in the long axis of the bowel, there is no danger of subsequent stricture. As the amount of mucous membrane and skin to be removed is absolutely under the control of the operator, the shape and configuration of the anus can be preserved perfectly, and this insures normal function.

(4) The safe and quick recovery, the absence of pain are sufficiently proven by the above description of the usual course of the after treatment. Whoever gives this method a fair trial can see to his own and his patient's pleasant surprise how well the method advocated in this paper meets all requirements of an ideal operation.

100 STATE STREET.

THE DISPENSING PROBLEM.*

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THE question whether a physician should dispense medicines when engaged in the practice of medicine is of antique origin, and in studying the different phases of the subject a glance at the history of medicine will inform the doctor whether any true beacons have been established to show the way, and whether, if there be such, they ought to be disregarded by those not obliged to dispense because of twentieth century conditions.

The earliest history of medicine is found in Egyptian records, and to the renowned Egyptologist, Ebers, we are indebted for the information that in ancient times, when the practice of medicine was entrusted to the priesthood, to a certain order was given the responsible duty of filling prescriptions sent to them by the physician-priest. In Greece, likewise, where the temples of Aesculapius were the medical centres, we find that these contained resident pharmacists, although, we are informed, Hippocrates carried his medicine with him. Galen, however, is on record as having kept a drug store in Rome. Among the Arabians there was a distinct separation of medicine and pharmacy as early as the eighth century, which separation was established by law in the eleventh century. In England, by the tenth century this division was complete. In 1233 anno domini, Emperor Frederic II had laws passed regulating the practice of pharmacy and medicine. There were two classes of pharmacists: stationarii, who sold simple medicines and nonmagistral preparations according to a tariff determined by competent authorities; and confectionarii, who only filled physicians' prescriptions, all pharmacal establishments being under the surveillance of the College of Medicine. This division became more and more complete as time passed, and we find in Bruges in Belgium in the year 1683, on complaint of the apothecaries, medical practicians were forbidden to dispense under heavy penalty. Today, all over the world, even in the most unenlightened countries, pharmacies are conducted to fill prescriptions and render the peculiar service devolving upon pharmacists.

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[2] *New York Medical Journal*, 1903.

*Read before the WAYNE COUNTY (Detroit) MEDICAL SOCIETY.

As we thus see that the practice of dispensing has, through natural reasons in which is bound the perpetuity of pharmacy, been definitely transferred to persons peculiarly gifted and trained for the work, and to an institution which by law and experience has found its proper place in our midst, is it well for us as physicians, individually, to elect this work, and thereby probably in time force it upon the entire profession? In fact, is it good policy for us as individuals to do so? Let use consider briefly the disadvantages and the advantages which belong to the dispensing system, and then determine whether it would be better to adopt it.

In the first place, the time has not yet arrived when we can depend simply on granules or tablet triturates. We must still have liquid preparations, powders, ointments, et cetera. Secondly, a physician with an ordinary practice is unable to devote the required time to compounding his medicines, for, to prepare ointments, powders and many liquid preparations properly, from ten to thirty minutes are required. If two or three patients are waited upon during office hours, the time will have to be prolonged and patients will be discommoded. Or, if these duties are delegated to another, the person should be a qualified pharmacist, and this brings us to another important disadvantage—the cost. Most physicians are not business-like, and therefore allow their bills to remain uncollected for a long time, with the result that many patients are registered on their lists who never expect to pay. The drug accounts of the patients must be carried as well as those for medical advice, while the drug accounts of the doctor are with firms who expect to realize in from thirty to ninety days. If a registered pharmacist were employed, the cost would necessarily be greatly increased. Again, if the doctor does the dispensing himself he has no check on his work, while in case two persons are engaged, one in writing the prescription and the other in compounding it, there is less likelihood of error. All physicians understand that at times the druggist is quite serviceable as a checkmate. The doctor is constantly expending money, and as the intervals between its receipt are somewhat long, he is always on the lookout for better prices, and with average human frailty, is liable at times to buy the cheap rather than the good pharmaceutic products, with damage to the patient's welfare and his own reputation. A great deal of the work done by the pharmacist is mechanical, and the physician could better spend the time required for its performance reading his journals and textbooks. The doctor acquires the habit of employing proprietary preparations, various compound elixers, et cetera, which contain a number of drugs whose composite action cannot be watched and recorded with scientific accuracy, or in some cases is not known, the firm not divulging all the ingredients. Although the physician may have three or four hundred dollars invested in his drug department, he cannot afford to stock, even in the smaller quantities, some little-used drugs which belong to the resources of a complete drug store, and which, when indicated, are very serviceable or absolutely essential. This being true, the doctor substitutes for what he really wishes to use something of inferior value. The practice of physicians giving away medicine is greatly to be deprecated. It is unfair to do this, it being a species of cut-rating which has proved very detrimental in all lines of business. The physician is poorly compensated now, considering uncollectable accounts and various schemes employed by societies to get good physicians at less than the regular fees.

What advantages, then, may we expect from dispensing ourselves? Firstly, we are told that we have more complete control of the patients, that they must come to see us whenever they wish their prescription refilled, and pay us an office fee. Suppose, however, this be so, which is probably not the case, as patients do not care to pay, and will not if they simply report and procure some medicine, will we not be able to secure the same result by cooperating with the druggists? The druggist will certainly not refill without orders, in most instances, if our continued patronage is assured him. What benefits the physician benefits the legitimate druggist, and it is not difficult to ascertain who are loyal to the doctor and direct our patronage toward them. We can also combat the patent medicine evil through the educated pharmacist. He can encourage or discourage the sale of these nostrums, and as there is more skill required, and therefore more profit, in filling prescriptions, if he can see his future clear for securing this business, without question he will choose it. There are now many stores in all parts of the country wherein absolutely no patent or secret medicines are sold, except on physicians' prescriptions, and if the pharmacists are encouraged the educated body which is now rising can be depended upon to render great financial and moral assistance to the doctors by discouraging the sale of patent medicines and advising consultation with the physician. Then as to substitution, the doctor, as noted above, if he does his own dispensing, is exceedingly likely to use what he has rather than what he sees indicated. No doubt there is some substitution by druggists, but the guilty ones are few, and disliked even more by the pharmacists than by the doctors. Another desideratum is the rapidity with which the medicine can be given to the patient if we carry an equipment. It would be well for all doctors to carry a few medicines for emergency cases, in fact we do this in the hypodermic outfit, but for reasons noted above it seems obvious that it is better to prescribe when regularly treating patients.

CONCLUSIONS.

The doctor should prescribe scientifically, not using anything of which he does not know or cannot know all that is known.

These prescriptions should be put up by a qualified pharmacist who makes a specialty of this work, and he should be reasonably paid for it.

There should be a general and specific understanding between doctors and druggists that no repeating of prescriptions is permissible without the physician's consent.

Pharmacists should be found who either do not sell patent medicines or at least do not push them, and who, as far as possible, keep them out of sight.

The pharmacists and physicians of every locality should have a joint meeting of their respective societies at least once a year, to exchange ideas, mollify grievances and correct abuses.

There should be uniform practice regarding the dispensing of prescriptions, and it would be well if our societies could be induced to discuss the matter and adopt a policy worthy of recognition by the physician, the pharmacist, and the public.

A DAILY STUDY OF FOODS PRODUCING OR NOT PRODUCING CASTS, FATTY EPITHELIA, AND ALBUMIN IN URINE.

By EPHRAIM CUTTER, M. D., New York.

[CONTINUED FROM AUGUST NUMBER.]

Please compare the urine with the preceding breakfast (B.), lunch (L.), dinner (D.).

October 3.—(U.): Slight albumin; casts, both kinds; filamentous catarrh.

(B.): Broiled salmon; coffee and cream; French fried potatoes; water.

(L.): Hamburg steak; Lyonnaise potato; water; butter; bread.

(D.): Hamburg steak; cranberry sauce, strained; milk; water; mince pie; cheese.

October 4.—(U.): Perfect, save traces of albumin and bile.

(B.): Hamburg steak; sweet potato; coffee; cranberry sauce.

(L.): Hamburg steak; sweet potato; pickeled peach; honey; cheese; mince pie; water.

(D.): Boiled beef tongue; celery; cranberry sauce; mince pie; cheese; water, hot and cold; salad dressing.

October 5.—(U.): Albumin; slight bile.

(B.): Hamburg steak; cranberry sauce; chowchow; coffee; whole wheat mush dextrosed and cream.

(L.): Cold tongue; tea; tomato; mince pie; cheese.

(D.): Tongue; whole wheat gems; honey; water; mince pie; cheese; mustard.

October 6.—(U.): One kidney cast; bile.

(B.): Hamburg steak; tomato; coffee; mince pie; cheese.

(L.): Cold tongue; raw tomato and sugar and vinegar; honey; whole wheat mush dextrosed and milk.

(D.): Hamburg steak; crab apple sauce; cheese; water; whole wheat mush dextrosed and milk.

October 7.—(U.): Slight albumin; one caudate cell; one binucleated cell.

(B.): Hamburg steak; tomato; whole wheat mush dextrosed and cream; coffee.

(L.): Hamburg steak; cranberry sauce; water and milk; mince pie; cheese; celery.

(D.): Mutton stew; crab apple sauce; milk; distilled water; mince pie; cheese.

October 8.—(U.): Perfect, save one false cast.

(B.): Hamburg steak; coffee; celery; whole wheat mush dextrosed and cream.

(L.): Hamburg steak; California prunes; mince pie; cheese; distilled water; English breakfast tea and milk.

(D.): Stewed lamb; milk; crab apple sauce; celery; whole wheat mush dextrosed and milk.

October 9.—(U.): True and false casts; filamentous catarrh.

(B.): Hamburg steak; coffee and cream; water; cranberry sauce; whole wheat mush dextrosed and milk.

(L.): Hamburg steak; baked potato; celery; Patapsco sauce; mince pie; cheese.

(D.): Mutton chops; ginger-bread; custard from yolk of egg; milk; water.

October 10.—(U.): Albumin; bile.

(B.): Mutton chops; mince pie; cheese; coffee and cream; water, distilled.

(L.): Salt fish and cream; baked potato; coffee; water; cheese; custard.

(D.): Hamburg steak; mutton chop; milk; water; custard.

October 11.—(U.): Perfect, save one kidney cast.

(B.): Mutton steaks; coffee and cream; ginger-bread with mutton gravy.

(L.): Hamburg steak; celery; mince pie; cheese; distilled water; baked apple.

(D.) : Rice; lamb stew; distilled water; cheese; Patapsco sauce.

October *12*.—(U.) : True and false casts; slight filamentous catarrh; slight fatty epithelia.

(B.) : Hamburg and mutton steaks; baked potato; celery; coffee and cream; distilled water; whole wheat mush dextrosed and milk.

(L.) : Mutton, baked in close pan; baked potato; baked apples; English breakfast tea; rice.

(D.) : Cold mutton; water; lemon; whole wheat mush dextrosed and cream.

October 13.—(U.) : Slight albumin and bile; abundant casts, both kinds, and filamentous catarrh. Condition probably due to mutton and cheese.

(B.) : Hamburg steak; celery; coffee and cream; mince pie; cheese.

(L.) : Hamburg steak; English breakfast tea; custard; milk; lemon; celery.

(D.) : Baked mutton, stewed; distilled water; cream and milk; mince pie; cheese.

October 14.—(U.) : Normal.

(B.) : Rump steak (pan broiled), fibers pale and cross markings faint; coffee and cream; butter; chowchow; Arlington wheat meal gems (baking powder).

(L.) : Rump steak; celery; Arlington wheat meal gems (baking powder) ; coffee and cream; mince pie; cheese.

(D.) : Salt pollack and cream; water; butter; baked apple; gingerbread.

October 15.—(U.) : Slight albumin and bile.

(B.) : Rump steak; biscuit and salt pollack; coffee and cream; mince pie; cheese.

(L.) : Rump steak; English breakfast tea and milk; apple; cheese; mince pie.

(D) : Mutton steak; distilled water; wheat gems; cream; whole wheat dextrosed dry.

October 16.—(U.) : Slight albumin; much true and false casts; fatty epithelia.

(B.) : Rump steak; wheat gems; butter; coffee and cream; baked apple; mince pie; cheese.

(L.) : Hamburg steak; boiled potato; water; bread and butter.

(D.) : Hamburg steak; tomato sauce; French fried potatoes; water; bread and butter.

October 17.—(U.) : Normal, save slight albumin.

(B.) : Fried soft clams; Lyonnaise potato; coffee and cream; water; lemon.

(L.) : Tripe; boiled potato; Graham bread and butter; cocoa; water.

(D.) : Mutton, cold; chowchow; baked potato; milk; wheat gems; water.

October 18.—(U.) : Normal, save slight albumin.

(B.): Boiled beef tongue; chowchow; baked apple; coffee and cream; mince pie; cheese.

(L.): Beef tongue; English breakfast tea and milk; baked potato; chowchow; mince pie; cheese.

(D.): Quahaugs and juice; mince pie; cheese; custard; mussels; water.

October 19.—(U.): Slight albumin; few casts; amyloid.

(B.): Cold tongue; baked potato; coffee; mince pie; water.

(L.): Roast beef; baked apple; English breakfast tea; whole wheat mush dextrosed and cream.

(D.): Cold roast beef; apple, baked; water; ginger-bread; whole wheat mush dextrosed and milk.

October 20.—(U.): Slight albumin; casts, both kinds; filamentous catarrh.

(B.): Cold roast beef; chowchow; coffee; cheese; whole wheat mush dextrosed and milk; Boston brown bread.

(L.): Cold roast beef; baked apple; mince pie; cheese; English breakfast tea and milk.

(D.): Cold roast beef, chopped; chowchow; hot water; whole wheat mush dextrosed and honey with cream.

October 21.—(U.): Almost normal.

(B.): Cold roast beef, chopped and warmed; coffee; baked potato; lemon; whole wheat mush dextrosed and cream.

(L.): Beefsteak; baked potato; baked apple; mince pie; cheese; water.

(D.): Cold steak, chopped and warmed; water; honey; butter; lemon; whole wheat mush dextrosed and cream; ginger-bread.

October 22.—(U.): Normal, save one kidney cast.

(B.): Cold roast beef, chopped and warmed; coffee; baked potato; apple sauce; Boston brown bread and butter.

(L.): Cold roast beef and tongue, chopped and stewed in their own liquor; mince pie; cheese; English breakfast tea and milk; Patapsco sauce.

(D.): Cold roast beef and tongue, as in (L.); apple sauce; milk; distilled water; butter; ginger-bread.

October 23.—(U.): Almost normal.

(B.): Beefsteak; baked potato; mince pie; cheese; whole wheat mush dextrosed and cream; coffee with cream and sugar.

(L.): Mutton steak; potato; mince pie; cheese; English breakfast tea and milk.

(D.): Mutton steak; whole wheat mush dextrosed and cream and honey; water; lemon.

October 24.—(U.): Almost normal.

(B.): Mutton steak; baked potato; mince pie; coffee with cream and milk.

(L.): Pork chops; baked potato; English breakfast tea and milk; mince pie.

(D.): Mutton steak; peach sauce; milk.

October 25.—(U.): Slight albumin; voided at noon, more albumin.

(B.): Cold roast lamb; fried eggs; fried bacon, crisp; coffee and cream; whole wheat mush dextrosed, cream and lamb juice.

(L.): Pork chops; baked potato; mince pie; cheese; milk; English breakfast tea and cream.

(D.): Cold roast mutton, warmed; cranberry sauce; milk; chowchow; ginger-bread and butter.

October 26.—(U.): Considerable albumin. Walked much yesterday.

(B.): Warmed over roast lamb; cranberry sauce; coffee and cream; Arlington wheat gems; whole wheat mush dextrosed and cream.

(L.): Rump steak; chowchow; water; milk; cream; mince pie; cheese.

(D.): Lamb stew; chowchow; oyster crackers; cheese; whole wheat mush dextrosed and milk; water.

October 27.—(U.): Very slight albumin; one cast; one false cast.

(B.): Pork chops; coffee and cream; baked potato; cheese; mutton jelly; peach and apple sauce; mince pie; cheese.

(L.): Rump steak; cranberry sauce; Boston brown bread; coffee; mince pie; cheese.

(D.): Rump steak; chowchow; custard pie, gutted; whole wheat mush dextrosed and cream and honey; water.

October 28.—(U.): Very slight albumin; abundant true and false casts.

(B.): Biscuit-chopped beefsteak; coffee and cream; Boston brown bread; mince pie; cheese.

(L.): Quahaugs and juice; baked potato, bacon flavor; mince pie; cheese; water; lemon; milk.

(D.): Salt fish creamed; water; whole wheat mush dextrosed and cream; lemon.

October 29.—(U.): Slight albumin and bile; some casts, both kinds; filamentous and protoplasmic catarrhs.

(B.): Codfish, creamed; baked potato; coffee and cream; whole wheat mush dextrosed and cream.

(L.): Pork chops; cranberry sauce; baked potato; English breakfast tea and milk; mince pie; cheese; water; lemon.

(D.): Roast mutton; baked potato; water; gravy.

October 30.—(U.): Slight albumin; one kidney cast; one false cast.

(B.): Roast mutton, rewarmed; coffee and cream; baked potato; whole wheat mush dextrosed and milk.

(L.): Pork chops; English breakfast tea and cream; whole wheat mush dextrosed and cream; custard.

(D.): Boiled tripe; Lyonnaise potato; bread and butter; water.

October 31.—(U.): Slight albumin.

(B.): Fried soft clams; Lyonnaise potato; coffee and cream.

(L.): Hamburg steak; Lyonnaise potato; water; bread and butter.

(D.): Cold roast lamb; chowchow; cheese; water; milk; gingerbread of whole wheat meal.

November 1.—(U.): Normal, save true and false casts.

(B.): Beefsteak; pork chop; cream and coffee; baked potato; whole wheat mush dextrosed and cream.

(L.): Cold boiled tongue; English breakfast tea; cheese; mince pie; whole wheat mush dextrosed and cream.

(D.): Beefsteak; Boston brown bread; honey; water; milk; cheese; grapes.

November 2.—(U.): Slight albumin.

(B.): Beefsteak; coffee and cream; sweet potato; cheese; chowchow; mince pie.

(L.): Beefsteak, biscuited and chopped; sweet potato; milk; chowchow; cheese; lemon; whole wheat mush dextrosed and cream.

(D.): Cold beef tongue; baked potato; baked apple; milk; water; chowchow; mince pie; cheese.

November 3.—(U.): Very slight albumin.

(B.): Cold beef tongue; chowchow; coffee; whole wheat mush dextrosed and cream.

(L.): Beefsteak; baked potato; English breakfast tea and cream; mince pie; cheese.

(D.): Cold beef tongue; chowchow; baked sweet potato; butter; milk; whole wheat mush detxrosed and milk.

November 4.—(U.): Albumin; some casts, both kinds; filamentous catarrh.

(B.): Beefsteak; coffee and cream; baked sweet potato; stewed grapes.

(L.): Roast lamb; baked potato; English breakfast tea and milk; mince pie; cheese; baked apple; milk shake.

(D.): Fried soft clams; Lyonnaise potato; milk; bread and butter.

November 5.—(U.): Normal.

(B.): Corned beef hash; Lyonnaise potato; coffee and cream; roll and butter.

(L.): Beefsteak; creamed potato; grapes; coffee and cream.

(D.): Beefsteak; boiled potato; cocoa; plums; pickeled pear; water.

November 6.—(U.): Bile.

(B.): Wheat and barley mush; tomato; beef hash; toast; coffee; milk.

(L.): Plain roast oysters; coffee.

(D.): Fried cod; Lyonnaise potato; water; bread; butter.

November 7.—(U.): Slight albumin.

(B.): Cold corned beef; coffee and cream; bread and butter and water.

(L.): Beefsteak; English breakfast tea; milk; baked potato; mince pie; cheese.

(D.): Mutton steak, rump; water; milk; Boston brown bread and butter.

November 8.—(U.): Very slight albumin; a few false casts; slight fatty epithelia.

(B.): Pork chops; baked potato; Boston brown bread; coffee and cream; baked apple.

(L.): Cold roast lamb rewarmed; baked potato; mince pie; cheese; English breakfast tea.

(D.): Cold lamb; baked potato; mince pie; cheese; water; milk.

November 9.—(U.): Albumin; casts, true and false; fatty epithelia; bile; mucopus; filamentous and protoplasmic catarrhs.

(B.): Pork chops; baked potato; baked apple; coffee and milk; whole wheat mush dextrosed and milk.

(L.): Beefsteak; English breakfast tea; chowchow; apple sauce; whole wheat mush dextrosed and butter; mince pie; cheese.

(D.): Lamb soup; cold lamb; date brown bread; water; lemon.

November 10.—(U.): Slight albumin; abundant filamentous and protoplasmic catarrh; some amyloid; true and false casts.

(B.): Pork chops; Boston brown bread with dates; coffee and cream; apple sauce; whole wheat mush dextrosed and milk.

(L.): Cold roast lamb; baked potato; Boston brown bread and dates; English breakfast tea and milk; mince pie; cheese; whole wheat mush dextrosed and milk.

(D.): Beefsteak; baked sweet potato; water; whole wheat mush dextrosed and honey.

November 11.—(U.): Slight albumin.

(B.): Pork chops; coffee; baked sweet potato; butter; whole wheat mush dextrosed and butter.

(L.): Roast lamb; baked potato; rye bread; English breakfast tea; whole wheat mush dextrosed and butter.

(D.): Beefsteak; rye bread; water; whole wheat mush dextrosed and honey and milk.

November 12.—(U.): Slight albumin; a few false casts; slight filamentous catarrh.

(B.): Pork chops; coffee; rye bread; cheese; whole wheat mush dextrosed and milk.

(L.): Beefsteak; baked potato; English breakfast tea and milk; custard; ginger-bread.

(D.): Cold roast mutton warmed; Boston brown bread; water; milk; whole wheat mush dextrosed and honey.

November 13.—(U.): Slight albumin; bile; false casts; filamentous catarrh.

(B.): Beefsteak; pork chops; baked sweet potato; coffee and cream; whole wheat mush dextrosed and milk.

(L.): Hashed corned beef; butter; coffee and cream; mince pie; cheese.

(D.): Tripe; squash; boiled potato; English breakfast tea and milk.

November 14.—(U.): Almost normal.

(B.): Ham; biscuited potato; entire wheat bread; butter; coffee and milk.

(L.): Hamburg steak; Lyonnaise potato; water; roll; butter.

(D.): Cup of milk and mince pie.

November 15.—Slight albumin; true and false casts; filamentous and protoplasmic catarrh.

(B.): Browned corned beef hash; coffee and cream; rolls; butter.

(L.): Hamburg steak; baked potato; cheese; mince pie; English breakfast tea.

(D.): Mutton stew; roll; English breakfast tea; chowchow.

November 16.—(U.): Slight albumin; some false and true casts; fatty epithelia; filamentous and protoplasmic catarrhs.

(B.): Hamburg steak; coffee; baked potato; whole wheat mush dextrosed and cream.

(L.): Cold beef tongue; baked potato; whole wheat mush dextrosed and milk; mince pie; apple sauce; cheese; English breakfast tea.

(D.): Mutton stew; apple sauce; cheese; water; whole wheat mush dextrosed and milk.

November 17.—(U.): Slight albumin; true and false casts; filamentous and protoplasmic catarrhs.

(B.): Cold tongue; coffee; baked potato; butter; mustard; whole wheat mush dextrosed and cream.

(L.): Hamburg steak; baked potato; English breakfast tea; cheese; mince pie.

(D.): Cold beef tongue; brown bread; milk; water; sage cheese; dates.

November 18.—(U.): Slight albumin and bile; many true and false casts; some fatty epithelia and filamentous catarrh.

(B.): Pork chops; baked potato; Boston brown bread and butter; coffee and cheese.

(L.): Beefsteak; baked potato; English breakfast tea; cheese; whole wheat mush dextrosed and milk and honey.

(D.): Quahaugs and juice; Boston brown bread and butter; water; whole wheat mush dextrosed and cream.

November 19.—(U.): Slight albumin and bile; some true and false casts; fatty epithelia.

(B.): Beefsteak; baked potato; coffee; mustard; whole wheat mush dextrosed and cream.

(L.): Pork chops; baked potato; English breakfast tea; sage cheese; ginger-bread; butter.

(D.): Cold roast mutton; date brown bread; milk: water; cheese.

November 20.—(U.): Normal; some slight bile.

(B.): Cold mutton; coffee; lemon; mustard; apple sauce; date Boston brown bread.

(L.): Pork chops; baked potato; English breakfast tea; apple sauce; whole wheat mush dextrosed and milk.

(D.): Beefsteak; ginger-bread; water; lemon; milk.

November 21.—(U.): Slight albumin; true and false casts; fatty epithelia; bile; filamentous catarrh.

(B.): Bacon and eggs; roast mutton, rewarmed; dates; Boston brown bread; butter; coffee; water.

(L.): Pork chops; baked potato; English breakfast tea; apple sauce; whole wheat mush dextrosed and milk.

(D.): Beefsteak; ginger-bread; water; lemon; milk.

November 22.—(U.): Slight albumin; very few false casts, and fatty epithelia.

(B.): Beefsteak; baked potato; coffee; whites of eggs; whole wheat mush dextrosed and milk.

(L.): Hamburg steak; coffee; water, distilled; ginger-bread; whole wheat mush dextrosed and cream.

(D.): Beefsteak; apple sauce; Boston brown bread and butter; cheese; distilled water; milk; whole wheat mush dextrosed and milk.

November 23.—(U.): Very slight albumin; casts, both kinds; fatty epithelia; filamentous and protoplasmic catarrhs.

(B.): Pork chops; coffee; baked potato; apple sauce; Boston brown bread.

(L.): Mutton stew; baked potato; cheese; Boston brown bread; English breakfast tea and milk.

(D.): Mutton stew; distilled water; Boston brown bread.

November 24.—(U.): Albumin; a few casts ,both kinds; bile; caudate binucleated epithelia.

(B.): Mutton stew; Boston brown bread; coffee and cream.

(L.): Hamburg steak; Boston brown bread; English breakfast tea.

(D.): Pork chops; biscuited beefsteak; Boston brown bread; milk; distilled water; whole wheat mush dextrosed and cream.

November 25.—(U.): Slight albumin; casts; fatty epithelia; bile.

(B.): Pork chops; baked potato; gravy; Boston brown bread; coffee and cream; whole wheat mush dextrosed and cream.

(L.): Beefsteak; baked potato; English breakfast tea; mince pie; cheese.

(D.): Cold beefsteak; Boston brown bread; ginger-bread; water; whole wheat mush dextrosed and cream.

November 26.—(U.): Slight albumin; filamentous and protoplasmic catarrhs; false and true casts; amyloid; oxalate of lime; cystin.

(B.): Hamburg steak; baked potato; Boston brown bread; whole wheat mush dextrosed and cream.

(L.): Roast chicken and stuffing; milk; mince pie; English breakfast tea and milk; cheese.

(D.): Whole wheat mush dextrosed and honey and cream; milk.

November 27.—(U.): Albumin; casts both kinds; catarrh and fatty epithelia; mucopus.

(B.) : Hamburg steak; pork chop; coffee and cream; baked potato; Boston brown bread; mince pie; cheese; water; lemon; whites of eggs.

(L.) : Roast chicken, rewarmed; mince pie; cheese; English breakfast tea and milk.

(D.) : None.

November 28.—(U.) : Slight albumin; casts, both kinds; fatty epithelia; cystin.

(B.) : Pork chops; biscuited potato; coffee and cream; Boston brown bread.

(L.) : Beefsteak; English breakfast tea and milk; baked potato; mince pie; cheese.

(D.) : Cold roast chicken; water; whole wheat mush dextrosed and milk.

November 29.—(U.) : Very slight albumin; fatty epithelia; cystin; mucopus.

(B.) : Pork chops; baked potato; apple sauce; coffee and cream.

(L.) : Roast lamb, stuffed; lemon; English breakfast tea and milk; whole wheat mush dextrosed and milk; custard.

(D.) : Chicken soup; Boston brown bread; water; mince pie; cheese.

November 30.—(U.) : Perfect, save slight albumin.

(B.) : Cold roast lamb; baked potato; coffee and milk; mince pie and cheese; whole wheat mush dextrosed and milk.

(L. and D.) : Cold roast lamb and stuffing; lemon; whole wheat mush dextrosed and milk; mince pie and cream; water.

December 1.—(U.) : Two false casts; both catarrhs; pus; compound epithelia with double nucleus.

(B.) : Beefsteak; coffee and cream; cold mutton; baked potato; mince pie; water.

(L.) : Beefsteak; English breakfast tea; cheese; whole wheat mush dextrosed and milk.

(D.) : Cold lamb, warmed; Boston brown bread; custard; water; whole wheat mush dextrosed and milk.

December 2.—(U.) Almost perfect.

(B.) : Beefsteak; Boston brown bread; coffee and milk; mince pie; whole wheat mush dextrosed and cream.

(L.) : Quahaugs and juice; milk; butter; mince pie; cheese; Tobasco sauce.

(D.) : Roast chicken; apple sauce; water; milk; cheese.

December 3.—(U.) : Trace of albumin; both catarrhs; slight casts.

(B.) : Biscuited chicken; baked potato; coffee and cream; apple sauce.

(L.) : Pork chops; biscuited potato; English breakfast tea and milk; mince pie and milk.

(D.) : Beefsteak; milk and water. (Diarrhea from chicken.)

December 4.—(U.) : Almost perfect; feces nearer normal.

(B.) : Beefsteak; baked potato; coffee and cream; chowchow; whole wheat mush dextrosed and milk.

(L.): Beefsteak; baked potato; English breakfast tea and milk; mince pie; cheese.

(D.): Quahaugs and juice; water; whole wheat mush dextrosed and milk; mince pie; cheese.

December 5.—(U.): Trace of albumin; few casts; some amyloid.

(B.): Bacon and eggs, fried; biscuited beefsteak; baked potato; coffee and cream; whole wheat mush dextrosed and cream.

(L.): Beefsteak; Boston brown bread; mince pie; cheese; English breakfast tea and milk.

(D.): Beefsteak; Boston brown bread; milk; butter; mince pie and cheese; water.

December 6.—(U.): Casts both kinds; catarrh, both kinds; cystin.

(B.): Beefsteak; coffee and cream; baked potato; Boston brown bread; whole wheat mush dextrosed and milk.

(L.): Beefsteak; Boston brown bread; coffee and milk; mince pie; cheese.

(D.): Beefsteak; distilled water; Boston brown bread; gingerbread; mince pie.

December 7.—(U.): Albumin; casts both kinds; protoplasmic catarrh. Intermediate.—In the night two whites of eggs.

(B.): Beefsteak; Boston brown bread; coffee and cream; water; mince pie.

(L.): Beefsteak; baked potato; English breakfast tea and milk; mince pie; cheese.

(D.): None.

December 8.—(U.): Normal, save albumin.

(B.): Beefsteak; baked potato; Boston brown bread; butter; apple sauce; mince pie; coffee and cream.

(L.): Biscuited chopped beef; coffee and milk.

(D.): Chopped beef, broiled; water; apple sauce; whole wheat mush dextrosed and milk.

December 9.—(U.): Slight albumin. (Weather, coldest day in the season.)

(B.): Chopped beef; coffee and cream; baked potato; mince pie; cheese.

(L.): Chicken soup; cold boiled mutton; tea; water.

(D.): Corn beef hash; bread and potato; hot water; mince pie.

December 10.—(U.): More albumin than for years. Due to exposure in traveling.

(B.): Mutton chop; beefsteak; boiled eggs; coffee and cream; roll; butter.

(L.): Soup; banana and cream; cold corned beef; mutton do; potato; bread and butter; coffee; apple pie; cheese.

(D.): Soup; sea trout; roast pork; apple sauce; custard pie and water.

December 11.—(U.): Slight albumin; casts, both kinds; slight catarrh.

(B.): Cream of wheat; beefsteak; eggs; bacon; coffee and cream; water.

(L.): Beefsteak; coffee and cream; rice soup; baked potato; apple pie; cheese; water.

(D.): Soup; bass; roast mutton; macaroni; cheese; tomato; water; milk; apple pie.

December 12.—(U.): Slight albumin.

(B.): Banana and cream; beefsteak; eggs; bread and butter; coffee and cream.

(L.): Soup; beefsteak; coffee and cream; potato; squash pie.

(D.): Clam chowder; schroded cod; roast beef; boiled potato; mince pie and cheese; water.

December 13.—(U.): Very slight albumin; both catarrhs slight; amyloid; few casts, both kinds.

(B.): Cream of wheat; beefsteak; baked potato; eggs; bacon; coffee and cream; bread and butter.

(L.): Cream of cauliflower soup; beefsteak; baked potato; coffee and cream; apple pie; cheese; water.

(D.): Soup; codfish; roast beef; baked potato; coffee and cream; apple pie; cheese.

December 14.—(U.): Slight albumin and false casts.

(B.): Baked apple and cream; eggs and ham; baked potato; bread and butter; coffee and cream.

(L.): Barley soup; sea trout; turkey, dark meat; onions; cranberry sauce; mashed potato; apple pie; cheese; coffee and cream.

(D.): Oyster chowder; water; milk; cold lamb; baked potato; apple sauce.

December 15.—(U.): Slight albumin and casts. Cold, snowy weather; hotel not heated. (Coal strike.)

(B.): Baked apple and cream; beefsteak; sausages; baked potato; coffee and cream; water; bread and butter.

(L.): Soup; crackers; beefsteak; fried potatoes; ginger-bread; orange sauce; water.

(D.): Chicken soup; roast beef; turnip; apple sauce; bread and butter; apple pie; cheese; boiled potato; coffee and cream; water; macaroni.

December 16.—(U.): Normal, save albumin.

(B.): Shredded whole wheat and cream; beefsteak; coffee and cream; water; scrambled eggs.

(L.): Soup; beefsteak; boiled potato; water; cream; dates; cheese.

(D.): Soup and bluefish; roast beef; boiled potato; string beans; mince pie; milk; cheese.

December 17.—(U.): Slight albumin; some casts.

(B.): Banana and cream; mutton chop; tough beefsteak; coffee and cream; water.

(L.): Soup; crackers; Hamburg steak; baked potato; apple pie; cheese; dates; water.

(D.): Clam chowder; codfish; roast lamb; onions; peas; milk; water.

December 18.—(U.): Almost perfect.

(B.): Beefsteak; rolls and butter; coffee and cream. (In bed with the grip.)

(L.): Hamburg steak; bacon; baked potato; coffee and cream; apple pudding.

(D.): Soup; fish; boiled corned beef; cabbage; turnip; parsnip; mince pie; cheese; water; milk.

December 19.—(U.): Slight albumin; casts, both kinds; fatty epithelia; protoplasmic catarrh.

(B.): Whole wheat steamed and cream; beefsteak; coffee.

(L.): Soup; whole wheat steamed and cream; Hamburg steak; horseradish; water.

(D.); Clam chowder; haddock; roast beef and pork, lean; potato; bread; butter; milk; water; lemon pie.

December 20.—(U.): Slight albumin.

(B.): Cream of wheat (has the morphology of hominy) and cream; beefsteak; scrambled eggs; coffee and cream; water.

(L.): Clam chowder; crackers; Hamburg steak; boiled potato; mustard; apple pie; cheese; water.

(D.): Soup; haddock; stuffed veal; carrot; potato; milk; water; apple pie; cheese.

December 21.—(U.): Slight albumin.

(B.): Codfish cake; scrambled eggs; coffee and cream; whole wheat steamed and cream.

(L.): Soup; codfish; turkey, dark meat, and stuffing; onions; peas; squash pie; dates; cheese; milk and water.

(D.): Oyster chowder; one-eighth inch thick slices of cold veal and mutton; baked potato; bread and butter; water.

December 22.—(U.): Abundant casts, both kinds; some fatty epithelia; protoplasmic catarrh.

(B.): Cream of wheat and cream; beefsteak; mutton chops; coffee and cream; bread and butter.

(L.): Soup; beefsteak; bread and butter; milk.

(D.): Soup; codfish; roast beef; boiled ham; potato; bread and butter; water; milk.

December 23.—(U.): Almost normal.

(B.): Banana and cream; beefsteak; bread and butter; coffee and cream.

(L.): Porterhouse steak; Lyonnaise potato; coffee and cream.

(D.): Soup; roast lamb and beef; potato; water; apple pie; cheese.

December 24.—(U.): Slight albumin; bile.

(B.): Whole wheat mush dextrosed and cream; beefsteak; scrambled eggs; coffee and cream.

(L.): Soup; beefsteak; coffee and cream; hot water; English breakfast tea; dates; cheese.

(D.): Pig's feet; entire wheat bread and butter; English breakfast tea; dates; cheese.

December 25.—(U.): Almost perfect.

(B.): Hamburg steak; scrambled eggs; bread and butter; coffee and cream; butter.

(L.): Mince pie; water.

(D.): Soup; water; roast turkey; potato; squash; onion; olives; escalloped oysters; chicken pie; plum pudding; mince pie; coffee. (Thanksgiving time.)

December 26.—(U.): Almost normal.

(B.): Hamburg steak; baked potato; scrambled eggs; coffee and cream; water.

(L.): Soup; Hamburg steak and beefsteak; baked potato; water; cream.

(D.): Clam chowder; codfish; beefsteak; string beans; beets; apple pie; cheese; cream; water.

December 27.—(U.): Slight albumin; bile.

(B.): Hamburg steak; bread and butter; coffee and cream.

(L.): Soup; Hamburg steak; biscuited potato; coffee and cream.

(D.): Soup; crackers; boiled ham and cabbage and pot boiled greens; mince pie; cheese; water.

December 28.—(U.): Casts, false; filamentous catarrh.

(B.): Hamburg steak; bread and butter; coffee and cream.

(L.): Soup; bluefish; turkey, dark meat; onions; celery; stuffing; apple pie; cheese; water.

(D.): Cold lamb and ham; bread and butter; oyster chowder and water.

December 29.—(U.): Almost normal.

(B.): Hamburg steak; bread and butter; coffee and cream.

(L.): Soup; crackers; Hamburg; bread and butter; coffee and cream; water.

(D.): Soup; haddock; roast beef; string beans; turnip; apple pie; cheese; water; milk.

December 30.—(U.): Slight albumin; casts, both kinds; filamentous catarrh.

(B.): Hamburg steak; bread and butter; coffee and cream; water.

(L.): Beefsteak; bread; butter; water.

(D.): Soup; crackers; corned beef and cabbage; tomato; macaroni; mince pie; cheese.

December 31.—(U.): Abundant cast, both kinds; two fatty epithelia.

(B.): Hamburg steak; bread and butter; coffee and cream; water.

(L.): Fish chowder; fried soft clams; Lyonnaise potato; mince pie; coffee.

(D.): Soup; trout; turkey, dark meat; onion; cranberries; stuffing; water.

January 1, 1903.—(U.): Slight albumin; false casts; bile.

CONCLUDING POINTS.

Please note:

The absence of sugar, as such.

The meat diet and no uric acid.

That water, hot or cold, when possible, was drank before meals and on going to bed, so as to keep the urine 1015 to 1020.

That the observer regards fatty ills as coming from:

(1) Retarded and impeded circulation; English idea.

(2) Excess of fat or sugar (that makes fat); American idea.

(3) Fermentation gases, in alimentary canal, as CO_2, for example, that paralyze parts near or remote, thus impeding the circulation.

Hence the restriction on sugar, as such, and fat food. Also the use of water to keep the blood at normal specific gravity. Abnormal high specific gravity impedes the circulation, as molasses runs slower than water.

That the microscopic examinations (morphology) of the urine were made with a one-inch objective supplemented with a one-fifth inch. Field, two and one-quarter by five-eighths by one-sixteenth deep, inches. Amice stand with horizontal stage.

That the one-inch brings out casts and catarrhs the best.

That the spiritual kingdom food is not reported.

That the exhibit shows that food, animal and vegetable, is causal. and cural of the marks of fatty ills of the kidney.

EQUITABLE BUILDING, 120 Broadway.

[CONCLUDED.]

ORIGINAL ABSTRACTS.

MEDICINE.

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THE CONTAGIOUSNESS OF PNEUMONIA.

WILLSON (Proceedings of the Philadelphia County Medical Society, September 30, 1903) reports three cases of croupous pneumonia in two brothers living in the same house, but not in the same room, and the roommate of one brother. One brother waited upon the other, first taken sick, but the other patient was only in and out of the sick room, without assisting in nursing or handling the sick. An infection by the sputum was unlikely in both the later cases, and the author thinks it was air-borne. He discusses the various possibilities, and points out the great frequency and the clinical importance of pneumococcus tonsillitis.

He also cites an example of pneumonia in a man of eighty-two, following closely a similar attack in his wife, but where also sputum infection could be excluded, and he cites some instructive recent examples of similar occurrences from the literature. In the discussion which followed the reading of the paper a number of cases were cited. In a hospital epidemic observed by Edsall, the cases ceased after the ward was thoroughly disinfected.

Such cases illustrate the importance of precautions against infection not only in pneumonia, but in all acute diseases of the respiratory tract, a fact long admitted, but rarely acted upon. G. D.

THE SERUM DIAGNOSIS OF TUBERCULOSIS.

L. M. Loeb (*Journal of the American Medical Association,* May 23, 1903) brings together many of the facts and opinions concerning the value of the various clinical tests for the diagnosis of tuberculosis, the object of all of which has most importantly to do with the diagnosis of tuberculosis in its so-called insipient stage.

The author has many objections of his own and of others to the use of the tuberculin test and its modifications, chiefly among which are: (1) The fact that the test cannot be employed in cases in which the temperature rises above 100° Fahrenheit. (2) That the reaction occurs in "latent and practically healed cases." (3) That opinion has it that exacerbations of the disease when not actually active are frequently caused. (4) That instances are on record of the production of localized and later of general tuberculosis by its use. (5) That even in the case of Koch's new product, "neutuberculin," virulent living tubercle bacilli have been found and rabbits and guinea pigs infected. (6) That not all cases react and that the reaction may occur in healed cases. [It might be said parenthetically that equally as good results have been obtained by tuberculin prepared from dead bacilli as from living ones. The risk of infection is certainly here reduced infinitesimally.]

Still more unsatisfactory than the use of tuberculin are substitutes for it, such as human and animal blood sera and so-called artificial blood sera.

The author also brings up the well-known objection to the animal experiment—its slowness and its almost absolute uselessness should a mixed infection be present. Cultural methods are practically out of the question.

Coming to the subject of the paper, the author describes the agglutination reaction as employed by Arloing and Gourmont, which consists in making glycerin (six per cent) potato culture of the tubercle bacillus, taking care that the colonies are moistened every other day by tilting the tube so that the glycerin solution bathes them. A luxuriant growth is thus obtained which differs from the ordinary culture in that it is soft and can be easily broken up. Subcultures are now made into bouillon containing one per cent peptone and six per cent glycerin. These are vigorously agitated daily to prevent precipitation until a good growth is obtained. The object of all these procedures is to bring about a culture in which the bacilli are isolated in a suspension and not bunched together. The reaction is now carried out after the same manner of the well-known Gruber-Widal reaction in typhoid fever. Both macroscopic and microscopic methods are recommended to be used conjointly.

After describing various modifications of the methods with the pros and cons, the author calls attention to the results of many investigators, and finally to his own observations, which extend over a series of fifty-two cases, a number "much too small to be in itself of any value" except that "the results agree quite closely with those of the majority of workers." His conclusions are as follows:

(1) Under various conditions animal sera agglutinate homogeneous cultures of human tubercle bacilli in liquid media.

(2) Such sera may be obtained from the human or animal body without the presence in it of the bacillus tuberculosis.

(3) It is doubtful whether the agglutinative powers are ever due to the specific action of the bacillus tuberculosis.

(4) The presence or absence in the adult human blood serum of agglutinative properties for tubercle bacilli is no decisive evidence of the presence or absence of tuberculosis lesions in the body. D. M. C.

PEDIATRICS.

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ADENOIDS AND THEIR TREATMENT.

J. F. Dickson (*Pediatrics,* June, 1903) calls attention to the fact that over seventy per cent of ear troubles of children are due to adenoids. How these growths affect the auditory apparatus is a mooted question, and it is our duty to become more familiar with their causes, symptoms and treatment, so that we can more thoroughly and intelligently treat and cure many heretofore incurable ear affections. The author recommends that in cases where impairment of hearing exists with symptoms of adenoid growths, or wherein there are recurrent attacks of earache—frequently followed by suppuration or obstinate nonsuppurative or old chronic suppurative cases with offensive discharge, or in fact any pathologic ear condition for which the cause is not readily found—the nasal pharynx be thoroughly examined for adenoids and, if found, the physician's duty is plain, namely to treat the nasopharynx as well as the ear. Adnoids are found more frequently than is generally supposed, and their removal for middle ear disease most frequently gives prompt and permanent relief, while treatment, without removal, proves quite unsatisfactory. The prognosis with regard to the removal of growths, disappearance of symptoms and improvement of health is good. The tendency to recurrence is only in a very small percentage of cases. The author is emphatic in reiterating that, in patients showing any defect of hearing or tendency thereto, treatment be instituted at once. If the growths are small, soft and pliable and can be treated locally with sprays, internal medication, et cetera, these may suffice, but if the growths are large and hyperplastic operative measures will be necessary. The good results of the operation will be noticeable in a week or ten days and the improvement is sometimes surprising. As soon as the nasopharynx is healed, treatment of the ear should be inaugurated if any abnormality exists.

FEEDING BABIES.

W. M. Hartshorn, M. D. (*Medical Record,* June 27, 1903) says that in the past four months it has been his practice to give all babies seven months and over in age, whose digestion seemed able to stand extra feeding, whether they were artificially fed or nursed, some stronger food. Bread and milk, flaked rice, oatmeal gruel, farina and cream of wheat were tried, but the most satisfactory results were obtained from bread and milk, especially prepared from stale bread, twenty-four to forty-eight hours old, by being soaked in boiling water until thoroughly softened. The water was then poured off and a cup of milk added. This was boiled for three or four minutes and then cooled and sweetened. From the marked change obtained in the general appearance of the weight charts, he concludes that in addition to the other cereals, bread and milk properly prepared, is a most valuable supplementary food.

THE SIMULATION OF APPENDICITIS.

J. P. Crozer Griffith, M. D. (*Journal of the American Medical Association,* August 29, 1903) calls attention to the simulation of appendicitis or peritonitis by pulmonary processes, especially pneumonia and pleurisy occurring in early life, at which time confusion is most likely to happen. He reports several cases and reviews the general observations of different writers, and there is evident a decided uniformity in most of the statements.

There is, namely, especially in early life, a well-recognized, long-known, but frequently forgotten, tendency for patients with pneumonia or pleurisy to refer to the abdomen the pain really produced in the chest. This is more liable to happen when the disease is situated in the lower part of the thorax, but there is reason to believe that it may also occur when it has attacked the upper portion. It is also more deceptive when the right side of the thorax is affected, since the right side of the abdomen is then liable to exhibit pain and the presence of appendicitis is suggested. Combined with the abdominal pain in these cases, there is also constipation, abdominal tenderness and distension. These symptoms, together with the vomiting, which quite commonly ushers in an attack of pneumonia in childhood, easily produce a clinical picture very closely simulating that of appendicitis. The distinction is made by—(1) the sudden rise of temperature to 103° Fahrenheit or thereabouts, and the tendency to maintain this degree; (2) the acceleration of respiration, which is out of proportion to the pulse rate or the pyrexia; (3) the relaxation of the abdominal walls between the respirations; (4) the diminution or disappearance of tenderness on deep pressure with the flat of the hand; (5) the possible presence of cough. Finally, no operation for appendicitis should be performed until after a careful or perhaps repeated examination of the lungs has been made. All these points will, however, sometimes fail to make the diagnosis certain.

THE CONVULSIONS OF CHILDHOOD.

Eustace Smith (*Lancet*, January 24, 1903) says that the reflex convulsions in infancy, due to teething, intestinal irritations, et cetera, are well known, but similar convulsions in later childhood are not so generally recognized and are too commonly treated as epilepsy from lack of careful consideration. These reflex convulsions of older children are most often seen in children of neurotic families and in individuals with poor circulation. The convulsions are usually preceded by signs of ill-health. Gastrointestinal irritations are usually explanatory of these attacks, but other forms of local irritation may produce them, among which are hard scybalous masses in an already inflamed bowel, the eye strain of hypermetropia or astigmatism, et cetera, and children with adenoids are especially likely to be affected.

NURSING THE INFANT.

Doctor E. V. Davis, of Chicago, in a paper read before the American Medical Association, May 8, 1903, at New Orleans, said that the early application of the infant to the breast causes the milk supply to increase more gradually, and advised that the infant be nursed every six hours on the first day, every four hours on the second day, every three hours on the third day, and after that at two hour intervals. Uncomfortable turgescence of the breast could be prevented by having the mother wear during the puerperium a snugly-fitting canton flannel breast binder. The doctor also reported five exceptional cases where the infants were not properly nursed by their mother's milk through some idiosyncrasy. In these cases artificial feeding proved more satisfactory.

THE TREATMENT OF SCARLET FEVER.

H. M. McClanahan (*Journal of the American Medical Association*, July 4, 1903) sums up the treatment of scarlet fever as follows: Keep all cases of scarlet fever in bed during the entire course of the disease and on a fluid diet for four weeks. A spray or gargle of some mild antiseptic should be employed together with hydrotherapy for the control of the temperature. Of the antipyretic drugs to be administered salicylate of sodium is to be preferred. Chloral hydrate should be given to quiet the restlessness, guarded by digitalis if necessary. In septic cases irrigation of the nose and throat with warm normal saline solution is required, and resort should be had to stimulation. For the itching of the skin he employs a one per cent solution of carbolic acid, and advises the use of inunctions, as they hasten desquamation and limit the spread of the infection. When cervical adenitis develops it should be treated by the local application of belladonna ointment with or without the ice poultice. Stimulating diuretics should be avoided.

OPHTHALMOLOGY.

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EXPERIENCE IN THE USE OF SOME NEW REMEDIES IN OCULISTIC PRACTICE.

Professor L. Konigstein (*Wiener Medizinische Presse,* February 15, and April 15, 1903), after speaking of the use of cocain and adrenalin, takes up the use of dionin.

In the beginning he used it in powder form. Immediately after the application the eyes begin to burn and tear, the margin of the lids become swollen and edematous, the conjunctiva is red, the blood-vessels injected and the cornea begins to shine. The swelling is not localized only in the lids, but it extends also to the skin of the forehead, to the lids of the other eye and down the skin of the cheek. The conjunctiva forms a chemotic wall around the cornea and protrudes from the palpebral fissure. The pupil is not affected. The duration of this stage varies from two to twenty-four hours, and depends upon the strength of the drug used, and upon the susceptibility of the individual; in old, weak, cachectic or lymphatic individuals the reaction is stronger. The second or third application of the drug has a less irritating effect, as the eye becomes addicted to the drug, and after a while the drug ceases to irritate the eye at all.

The writer uses this drug in all forms of keratitis; in some cases with excellent results, especially in keratitis parenchymatosa at the beginning of the affection. In old patients the drug has no effect at all. In phlyctenular affections the effect varies. In diseases of the conjunctiva it is contraindicated. In iritis the results were good, as not only did it stop the pain, but also shortened the course of the process. It is very efficacious in glaucoma hemorrhagicum. Many authors obtained good results with dionin in chorioiditis, in retinal hemorrhages and opacities of the vitreous. In cataract operations it facilitates the absorption of the lens residue, especially in cases of extraction of the lens for high degree of myopia. It has one disadvantage and that is by causing frequent sneezing, in some individuals, it might cause rupture of the wound.

R. Mengelburg (*Wochenschrift fur Therapie and Hygiene des*

Auges, Number XXXII, 1903). The author lays stress upon a fact hitherto unknown, namely, that a combination of adrenalin and atropin is apt to produce symptoms of atropin poisoning, even in small quantities. In several cases in which this fact was demonstrated there was no idiosyncrasy for atropin, for it was quite well borne when not combined with adrenalin. He explains the result as follows: Through adrenalin the vessels of the mucous membrane of the canaliculus are much contracted and thereby the mucous membrane is made much thinner and the canal more patent, and in this way a bigger opening is made through which the atropin can pass into the tear duct and from thence into the nose. He advises great caution in the use of these two products together.

LARYNGOLOGY.

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CONGENITAL INSPIRATORY STRIDOR.

D. Crosby Greene, Junior (*Boston Medical and Surgical Journal,* June 11, 1903) reports five cases brought to the Boston Children's Hospital in three years suffering from stridor. In one case reported the stridor entirely disappeared when the child was a year and a half old. One died of pneumonia, aged six months. Another developed bony rickets and deformity of the chest, and at the age of six months still had the stridor. Of the remaining two one still has the stridor at the age of fifteen months, while the other outgrew it when about a year old.

A CASE OF LIPOMA OF THE TONSIL.

Clement F. Theisen (*The Laryngoscope,* August, 1903) reports a case in a girl aged eight years. The tumor was about the size of a small marble, which was attached to the center of the right tonsil by a rather long, thin pedicle. The growth was perfectly round and smooth and of a yellowish color. The tumor was removed by excising the pedicle as close to the tonsil as possible. A microscopic examination showed it to be a lipoma. A review of the cases reported by various observers is given.

A RARE TUMOR AT THE BASE OF THE TONGUE.

Friedrich Hanzel (*Archiv. fur Laryngologie und Rhinologie,* Volume XIV, Number I, 1903) gives a history of a woman, aged fifty years, who for twenty years had had interference with speech. Examination revealed a tumor at the base of the tongue, which filled the isthmus of the fauces and was approximately the size of a small apple. Histological examination showed it to originate from the remains of the ductus lingualis, the duct which in the embryo runs from the thyroid gland to the foramen cecum at the base of the tongue.

IS ATROPHIC RHINITIS ALWAYS AUTOCHTHONOUS? THE NECESSITY OF ESTABLISHING AN EXACT DIAGNOSIS IN ORDER TO DETERMINE THE TREATMENT.

W. Freudenthall (*Annals of Otology, Rhinology and Laryngology*, June, 1903), in an exhaustive review of the subject, draws the following conclusions:

(1) Ozena is an atrophy of the nasal interior, which is conditioned by atmospheric influences—xerasia.

(2) The bones of the turbinated bodies appear to be affected at an early stage of the disease.

(3) The effects of lack of humidity in the air are apparent in all parts—

(a) Of the nasal interior, including diseases which were formerly looked upon from a different point of view, as for example, ulcus septi nasi perforans, the rhinitis atrophica anterior, some forms of epistaxis, et cetera.

(b) Neighboring parts of the body (scalp, ears, lips, teeth).

(c) Probably also in distant organs.

(4) In order to convert this atrophy into ozena, the plentiful invasion of a bacillus, similar to Friedlander's pneumobacilli, is necessary.

(5) This invasion occurs in an early period of life, and is caused, perhaps in some cases, by direct transmission from the vulva.

(6) Accessory sinus disease often appears as secondary to ozena.

(7) After all has been said, ozena is to be considered as a genuine and autochthonous disease, resulting from atrophy of the nasal interior.

REPORT OF A CASE OF BILATERAL ABSCESS OF THE SEPTUM, WITH WELL MARKED SYMPTOMS OF SEPTICEMIA; AND REPORT OF A CASE OF EPIGLOTTIC ABSCESS, WITH SECONDARY INVOLVEMENT OF THE CERVICAL GLANDS.

William L. Culbert (*Annals of Otology, Rhinology and Laryngology*, June, 1903) reports two interesting cases. The case of septal abscess occurred in a male, aged thirty-one, who contracted a severe cold followed by chills, fever, sweats, and on the fifth day a temperature of 104° and a pulse of 132. Both nostrils were occluded by the abscess. After the evacuation of the pus by incision the symptoms were quickly relieved.

The case of abscess of the epiglottis occurred in a male, aged thirty-four, who complained of pain on deglutition, difficulty in breathing, thick and difficult speech and a sense of swelling in the throat. There was no specific history. Examination showed enlargement of the lymphatic glands of the neck and a mass at the base of the epiglottis. Relief was promptly given by the evacuation of the pus.

PSYCHIATRY.

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THE INCREASE AND PREVENTION OF INSANITY.

Doctor G. Alder Blumer, in the Presidential address to the American Medico-Psychological Association at Washington, District of Columbia, 1903 (*American Journal of Insanity,* July, 1903), discusses interestingly among others the subjects of the increase and prevention of insanity. He says that a study of Sanborn's figures no longer leaves it doubtful that the insane are increasing in New England beyond the natural increase of population. In Maine at a conservative estimate the annual increase of insane persons is at the rate of two per cent a year while the total population has not shown a gain of twelve per cent in thirty years. He concludes that in the entire population of New England there is one insane person in every three hundred seven inhabitants. Census enumeration, whether of federal or state direction, is notoriously untrustworthy in this matter of the insane, otherwise the proof of disproportionate increase or a decrease might be established beyond peradventure.

He further says that the fact that in New England and New York the ratio of insane to the general population is as one to three hundred is sufficiently impressive to raise the query whether we are doing all in our power to prevent its occurrence and for himself unhesitatingly answers in the negative. He believes the prevention of insanity lies most largely in curtailing the production of insane persons and is encouraged that the principle that prevention is the chief end of all medicine is gaining ground among the laity in its application to the subject of insanity and marriage. Many otherwise reasonable people imagine that there is initiated some mystic process, phychic or physical, that makes for sanity when marriage of whatsoever sort is consummated and it is a common enough delusion that if insanity develops after marriage child bearing will cure the psychosis. Men and women do not realize how much insanity is multiplied in the land by natural increase by birth. He quotes Wilcox that heredity and drink are the two overwhelmingly important causes of insanity and says the tendency in degenerate families is to rear a larger number of children than in those of average intelligence. It appears that while nature tends to check increase in the case of gross bodily infirmity, it is otherwise where only the higher faculties are involved in the degenerative process. And in these days when presidents of republics and universities and emperors are exhorting to marriage and singing paens to frequentative maternity, it is well that they ponder these things.

Doctor Blumer thinks that the prevention of marriage and the production of offspring by legal prohibition in persons with distinct family history of insanity or alcoholism will do most to prevent the increase of insanity. In commenting upon Doctor Wilcox's advocacy of the prohibition of such marriages, the permanent detention of persons after a third admission to an asylum and the granting of divorce from the unfortunate victims of incurable insanity or continued drunkenness, he says that harsh as such measures may seem to some and shocking as they may be to the religious sentiment of others, it is well for all of us to reflect that the making a human life is as serious a matter as the taking one. He refers to recent enactment of a Connecticut statute forbidding marriage between known defectives under heavy penalties and the introduction of similar bills in the legislatures of other states. If such bills fail to pass because public opinion may not yet be ripe for them, they at least serve the useful purpose when introduced of calling attention to the evils with which it is their purpose to deal.

NEUROLOGY.

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IMMEDIATE SUTURE OF INJURED NERVES.

THIS is a subject which naturally interests every general practician and surgeon. Judging by the number of cases treated at neurologic clinics, its importance is often overlooked.

A break of continuity, in bone or blood-vessel, so obviously demands attention that it is practically never overlooked. The same injury sometimes causes either an immediate break or, more often, a bruising of the nerves, at the site of injury, but the injury to the nerve does not compel immediate attention as does a fracture or hemorrhage. Again, crushing injuries which do not cause either fracture or hemorrhage, often injure nerves seriously; the same is true of lacerated wounds. All of these injuries often show their ill effect some time after the injury, for it very generally happens that enough fibres remain uninjured, so that the defect which follows, is not a total paralysis of either motion or sensation; hence has originated the unfortunate practice of waiting for time to cure the damage when close observation would show that degeneration of the injured nerve is steadily progressing. Even in incised wounds of nerves there seems to be a reluctance, on the part of some physicians, to proceed to immediate suture, yet the indications all are in favor of the most prompt action. In cleaning up a lacerated wound, involving any considerable nerve, it would seem even more important to suture the nerve than to secure union of less important structures, such as muscle substance.

There is much reason to believe that bad lacerations, caused by dog-bites, would not lead to severe reflex neuroses, were careful examination of the wound and immediate suture of injured nerves more commonly done. It is not sufficient, in such case, to simply secure disinfection. It is not solely a question of possible hydrophobia. In view of these facts the discussion of the subject at a recent meeting of the New York Neurological Society (*Journal of Nervous and Mental Disease*) is of value:

Doctor Russel A. Hibbs presented a boy of fifteen years who had come to the Orthopedic Hospital on October 6, 1902, with a history of having fallen upon a knife seven weeks previously and injured the leg. On October 9 he was operated upon, and on exposing the site of the injury, it was found that the popliteal nerve had been divided. It was accordingly sutured, with a practically perfect result. While the voluntary power in the muscles supplied by this nerve was lost, there was still some sensation, which was apparently accounted for by the fact that a few fibers of the nerve remained intact. The limb was kept slightly flexed for six weeks after the operation.

Doctor M. Allen Starr thought surgeons as a rule did not recognize the great importance of suturing nerves at the time of such injuries, for it was not uncommon for persons so afflicted to seek relief a considerable time after the injury. There could be no question that a divided nerve would not unite spontaneously in the majority of cases, and it was equally certain that by nerve suture a good result was usually secured. He had seen one or two interesting cases in which nerve suture had been essayed in children in whom the brachial plexus had been injured at birth. Four successful cases of this kind had been recently reported. The operation consisted in laying bare the brachial plexus, finding what nerves were torn, and uniting them.

Doctor William M. Leszynsky said that in injuries of the hand special care should be taken to determine whether or not the nerves had been injured. He had recently seen a case in which the divided tendon had been sutured and the divided ulnar nerve had been entirely overlooked. As a result, a neuritis of this nerve had developed before he saw the case. Although rather late, an operation had been advised in the belief that even late operations were often successful.

Doctor Fisher said that he had had under observation for some time a facial paralysis that dated from childhood, the patient being a woman of thirty. After a while a faradic response from the facial muscles was obtained; hence he thought one could hardly place a time limit after which nerve suture would afford but little prospect of benefit.

Doctor Hibbs said that in his case the original wound had been treated at a hospital, but the nerve injury had not been noticed.

THERAPEUTICS.

By DELOS LEONARD PARKER, PH. B., M. D., DETROIT, MICHIGAN.
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SUMMER COMPLAINTS OF CHILDREN.

SAMUEL A. VISANSKA, M. D. (*Therapeutic Gazette*, July, 1903) considers summer complaints of children under the three heads, gastroenteritis, enterocolitis, and colitis. Of the causes that produce these conditions he eliminates the one commonly considered by the laity as the most frequent and effective of all, namely, teething. He says: "To my mind teething has absolutely nothing to do with diarrhea, and every modern text-book on pediatrics will agree with me." He calls attention to the fact that children teethe in winter, and asks how many cases of winter diarrhea the physician is called upon to treat.

As true causes of summer complaint he mentions heat, low power of resistance, bad ventilation, overcrowding, improper diet, too much diet.

He further says: "All cases of enterocolitis are not true cholera infantum, and Rotch has placed this disease (cholera infantum) where it belongs, under specific infectious diseases caused by a specific organism and characterized by acute gastroenteric disturbance with intense choleriform symptoms." Cholera infantum is a rare disease and care should be taken not to confuse it with other conditions presenting similar symptoms.

In the treatment of gastroenteritis four things are demanded: (1) To assist the effort which nature is making to free the stomach and intestine from the poison which is in them; (2) to restore the surface circulation; (3) to supply water to the tissues; (4) to support the strength until the disease has run its course.

Under all circumstances milk, whether from mother, wet-nurse or bottle, should be interdicted. In carrying out the treatment outlined above, the stomach should be washed out with warm normal saline solution and then three to five grains of calomel placed on the tongue. If vomiting continues the irrigation should be repeated. Next the bowels should be irrigated with warm water and Castile soap, to be followed by an injection of cool water containing tannic acid, thirty grains to the pint. The child should be allowed to suck from a bottle sterilized ice-cold water containing a few drops of brandy. If vomiting and diarrhea continues, morphin and atropin should be given in doses of one one-hundredth grain of the former and one eight-hundredth grain of the latter for child one year old.

For signs of collapse hot pack should be employed. For weakness of heart minute doses of strychnin, digitalis and nitroglycerin may be indicated. When the condition of the child begins to improve, a little sterile food should be given. The child should be kept outdoors as much as possible.

In enterocolitis the above treatment should be reinforced by rectal injections containing a few minims of laudanum.

In colitis the tenesmus and bloody stools are best treated by regulation of the diet and the following given by the stomach.

℞.	Magnes. sulph.,	gr. v
	Tr. opii deod.,	M. ss. –oj
	Syr. tolu.,	M. xv
	Aq. menth. pip., q.s., ad	ʒj

This to be followed by bismuth given freely. When possible change of air should be secured.

DIABETES AND A DIET CONTAINING POTATOES.

THE *Journal de Médecine et de Chirurgie Pratiques,* September 10, 1903, in a leading article, reviews a publication of Doctor Mossé of Toulouse, on the subject mentioned above.

In a previous work Doctor Mossé had advanced the idea that potato is an aliment not only permissible but even useful in diabetes, and one capable of being substituted for bread in sufficient proportion to maintain the proper standard of alimentary ration; that is to say in the ratio of two and one-half to three of potatoes, weighed before cooking, to one of bread.

In his latest work Doctor Mossé has declared that the substitution was well supported in almost all the cases in which it was made, notwithstanding the generally accepted ideas in opposition to the use of feculents by diabetics.

The daily ration of potatoes prescribed in place of bread was from one to one and a half kilograms (two to three pounds). This diet was followed by a rapid diminution of the thirst, and the glycosuria, and an improvement in the patient's general condition. These good results were secured in gouty patients, presenting the disease in light, medium and severe forms, as well as in others suffering from a nervous or undetermined form of diabetes. In all cases in which it occurred, return to a bread diet destroyed the improvement that had been gained.

Doctor Mossé explains the beneficial effects of potato-containing diet in diabetes by saying that water is six times more abundant in potatoes than in bread, a fact that accounts in some measure for the diminution of thirst, and sensation of dryness in the mouth. Also that by the carbonate of potassium, which develops in the system when potatoes are ingested, the acid dyscrasia is lessened, and on this account the cells of the body are placed in an improved physiologic condition. This, he thinks, facilitates the manifestations of vital cellular activity with an increase of glycolytic energy.

Doctor Mossé insists that the regime he recommends is not a treatment of the disease itself. It simply prevents or lessens the disturbances dependent on morbid supply of sugar in the blood; but it does not cure the disturbed nutrition which characterizes the diabetic; it lessens the effects by diminishing in an indirect manner the acid dyscrasia of the blood and other fluids of the body; it is, in a word, only a treatment of the syndrome.

The best results from the treatment were met with in so-called arthritic subjects. In other forms of the disease, however, good was accomplished.

In whatever form of the disease the remedy is used it is necessary to watch closely the effect on the organism. Frequent and regular examinations of the urine are called for here. As to the amount of potato to be given it is best to increase the quantity gradually from a small initial dose and let the effect decide this point.

Contraindications of the regime are albuminuria, tuberculosis, indigestion and loss of appetite. In all cases it is best to weigh the amount of potato taken each day. The form in which the potato is cooked is of no importance. A short rest was found to overcome an acquired distaste for the potato diet.

EDITORIAL COMMENT.

THE RISE AND FALL OF MEDICAL JOURNALS.

THE demise, recently, of an eastern medical weekly after a comparatively brief period of struggling existence, finishes another chapter of the commentary on medical journalism. The publication in question had many advantages to promote its success. It was born in an atmosphere of scientific and professional learning, and was endowed at once with trained editorship, a large professional following, and the determination to succeed. There was lacking, however, a certain very important quality, which is also wanting in some prepossessing and highly-educated individuals—the quality of success. However indefinite this explanation may seem, it is nevertheless as clear as are the reasons for failure offered by the ex-editors of the ill-fated journal.

Neither this incident nor the project of the new medical daily are needed to suggest the thought, but it is a fact, with which everybody is well acquainted, that anybody can start a medical journal. Possibly the founders may sustain the venture for a while. Some good medical journals die, the same as some good people die, but the property of endurance in a medical journal is pretty good evidence of its establishment upon, and management according to, worldly-accepted business principles, notwithstanding the latter may sometimes lack foundation in ethics. An ecclesiastic cannot live on promises of support; neither can a medical journal survive without a business basis; but danger lurks in the desire to achieve fame and fortune at any risk, and consequently we are little surprised when the goal of some ambitions is reached in the determination to perpetuate journalistic existence even at the cost of indulging in ethical obliquity.

A vast deal has been said and written from time to time about mercenary medical journals, and the comments cannot be ascribed to victims of delusion. Journals of this class certainly abound, and their trademark closely corresponds to that which brands quack doctors. The projectors are in the enterprise wholly for dollars and cents, regardless of honor and justice, and the better element of the medical public understands well their motives. A marked distinction is perceptible between the medical journal whose primary purpose is mercenary, and the medical journal whose basic principle contemplates the dissemination of trustworthy knowledge regarding the science of medicine, and therefore, considering the higher educational requirements and the extended course of study necessary to gain admission to the medical profession, which have been developing gradually for a quarter century, it is indeed a lamentable commentary on the ethics of the craft that physicians are still extant who countenance the mercenary makeshifts.

In January, 1879, according to George P. Rowell & Company, the whole number of medical journals published in the United States was seventy-five, and although many have fallen by the wayside, the output has been augmented from year to year until in April, 1903, quoting the same authority, the number had reached one hundred sixty-two, an average of nearly one journal for every six hundred members of the medical profession. It is probably safe to say that about two-thirds of this number are conducted solely for pecuniary gain by persons who have not a scintilla of interest in medical science beyond the receipts derived from their periodic handbills, each of which has been dignified, for the purpose of insuring an audience with the unsuspecting doctor by the *nom de plume* of "medical journal."

Notwithstanding the fact that journals are continually yielding the ghost many new ones have been started within the past few years, presumably to fill long felt wants. Seemingly oblivious of the condition that too many medical journals already exist, there are yet individuals abroad in the land who cherish the erroneous idea that the establishment of additional mouthpieces contributes to the greater honor and glory of the medical profession. The truth of the matter is that the interests of the profession would be better subserved by depleting the ranks of medical journalism, for, the greater the competition the greater the likelihood of the weaklings becoming prey to mercenary influence.

It is amusing to observe the artifice displayed by some journalistic enterprises to hoodwink the physician and the purveyor. Instances galore might be cited to show the deception practiced upon both constituencies, but suffice it to say that the trickery is not confined exclusively to journals of the so-called inferior class, but is characteristic of some that essay to be paragons of all that is good and great in medicine.

CONTEMPORARY.

DRUG ERUPTIONS.

[SAINT LOUIS MEDICAL REVIEW.]

In refreshing the encyclopedic store of information required by the general practitioner one item is too often neglected—that of drug eruptions. All are familiar with the possibilities of the commoner drugs in the way of producing cutaneous lesions, and in the majority of cases these lesions may be safely ignored. But the growing use of an increasing list of synthetic remedies, many of which often induce skin manifestations, and the fact that delicate diagnoses are sometimes dependent upon the condition of the skin, make the subject one for profitable investigation.

To the *British Medical Journal*, George Pernet, of the University College Hospital, contributes an interesting discussion of drug eruptions He classifies them as follows:

(1) Erythematous, urticarial, papular, and desquamating. (2) Vesicular and bullous. (3) Pustular. (4) Furuncular. (5) Purpuric. (6) Gangrenous. (7) Pigmentary and discoloring. (8) Hypertrophic. (9) Tumor-like.

The lesions produced by belladonna are well known. Administration by the mouth, however, seldom induces these rashes. Arsenic, during the Manchester beer-poisoning epidemic, produced a variety of rashes. Mercury, quinin, and iodoform are also familiar examples Chrysarobin at times leads to a diffuse erythema, especially when applied near the face, and is then often accompanied by a smart conjunctivitis.

Copaiba may cause an eruption which at times leads to errors of diagnosis. It may be papular, scarlatiniform, or morbiliform. Usually it is made up of rosy red, slightly elevated patches, chiefly about the backs of the hands, the fronts of the knees, the limbs, and abdomen. A well-defined scarlatiniform rash may develop over the front of the trunk.

Erythematous eruptions may be caused by a number of drugs—opium, morphin, potassium chlorate, digitalis, et cetera. The numerous synthetic remedies also act in this way; antipyrin, phenacetin, sulphonal, et cetera. Chloral hydrate deserves special notice. The eruptions from the use of this drug vary, but are usually erythematous in type. They occur, too, as dusky-red papules, or as purplish mottling in the neighborhood of the joints of the extremities. The scarlatiniform rashes may be generalized with flushing of the face, itching and burning, and followed by desquamation.

Diagnosis in the foregoing cases may be easy, at other times difficult. In scarlatiniform rashes the first thing is to exclude scarlatina. Here duration, mode of onset and development, and absence of corroborative symptoms are the points to lean on. Nonscarlatinal rashes do not usually come out in the order observed by scarlatina. There may be some rise of temperature and some congestion of the fauces in the former, but this is not the rule. It is scarcely necessary to insist on the importance of examining the urine in suspected scarlatina.

Salipyrin (a compound of salicylic acid and antipyrin) has led to a herpes-like eruption about the penis and mucous membranes of the mouth. There were also erythematous areas about the hands and upper limbs in the case of a medical man, who had taken fifteen grains in a little diluted cognac. He found subsequently that a very small dose of antipyrin had the same effect. There is an interesting case of a German student, who for about nine months had recurrent attacks of a bullous exanthem involving various parts of the body, but chiefly the face. This was accompanied by headache, rigors and pyrexia. The diagnosis of pemphigus chronicus was made, but it turned out subsequently that this rash occurred after drinking bouts, the patient treating the usual Katzenjammer in the morning by taking thirty grains of antipyrin in place of the customary red herring. Here again the combination of beer and drugs may account for the severity of the symptoms.

Antipyrin may give rise to an erythema multiforme bullosum-like rash. A point about antipyrin is the pigmentation which may be left behind after the subsidence of the bullæ. This pigmentation must not, in the absence of corroborative symptoms, lead to the erroneous diagnosis of syphilis. The recurrent vesiculo-bullous lesions due to iodoform must be specially borne in mind, and direct inquiry be made, especially in the case of medical men, for the cause of these rashes may be easily overlooked and ascribed to constitutional conditions. In fact surgeons, who have suffered in this way themselves, have failed for a long time to realize the cause of their trouble.

The effects of arsenic, bromids, iodids, and quinin sometimes go beyond a mere erythema; papules, furuncles and even gangrene may be produced.

Speaking generally of diagnosis, Pernet says:

"In a general way, whenever an unusual-looking rash comes before you, the possibility of a drug rash should be borne in mind. If the patient has been under your own care, the medication you have prescribed will occur to you. On the other hand, the patient may have taken remedies on his own responsibility, unknown to you, or may consult you for the first time on account of the rash. In all cases it is important to see as much of the eruption as possible. The duration, distribution, and mode of development, together with a general examination of the patient as to the condition of the various functions, are the points which will help you to arrive at a right conclusion. The duration alone will in some cases exclude the acute exanthemata, and variation from the mode of invasion of the latter will also be of great assistance. The urine should always be examined. Inquiry as to a preexisting skin disease should be made."

MEDICAL NEWS.

THE PRINCIPLES OF ETHICS.

[CONTINUED FROM AUGUST NUMBER.]

ARTICLE 4.—DUTIES OF PHYSICIANS IN CASES OF INTERFERENCE.

SECTION 1.—Medicine being a liberal profession, those admitted to its ranks should found their expectations of practice especially on the character and the extent of their medical education.

SECTION 2.—The physician, in his intercourse with a patient under the care of another physician, should observe the strictest caution and reserve; should give no disingenuous hints relative to the nature and treatment of the patient's disorder, nor should the course of conduct of the physician, directly or indirectly, tend to diminish the trust reposed in the attending physician.

SECTION 3.—The same circumspection should be observed when, from motives of business or friendship, a physician is prompted to visit a person who is under the direction of another physician. Indeed, such visits should be avoided, except under peculiar circumstances; and when they are made, no inquiries should be instituted relative to the nature of the disease, or the remedies employed, but the topics of conversation should be as foreign to the case as circumstances will admit.

SECTION 4.—A physician ought not to take charge of, or prescribe for, a patient who has recently been under the care of another physician, in the same illness, except in case of sudden emergency, or in consultation with the physician previously in attendance, or when that physician has relinquished the case or has been dismissed in due form.

SECTION 5.—The physician acting in conformity with the preceding section should not make damaging insinuations regarding the practice previously adopted, and, indeed, should justify it if consistent with truth and probity; for it often happens that patients become dissatisfied when they are not immediately relieved, and, as many diseases are naturally protracted, the seeming want of success, in the first stage of treatment, affords no evidence of a lack of professional knowledge or skill.

SECTION 6.—When a physician is called to an urgent case, because the family attendant is not at hand, unless assistance in consultation is desired the former should resign the care of the patient immediately on the arrival of the family physician.

SECTION 7.—It often happens, in cases of sudden illness, and of accidents and injuries, owing to the alarm and anxiety of friends, that several physicians are simultaneously summoned. Under these circumstances, courtesy should assign the patient to the first who arrives and who, if necessary, may invoke the aid of some of those present. In such a case, however, the acting physician should request that the family physician be called, and should withdraw unless requested to continue in attendance.

SECTION 8.—Whenever a physician is called to the patient of another physician during the enforced absence of that physician the case should be relinquished on the return of the latter.

SECTION 9.—A physician, while visiting a sick person in the country, may be asked to see another physician's patient because of a sudden aggravation of the disease. On such an occasion the immediate needs of the patient should be attended to and the case relinquished on the arrival of the attending physician.

SECTION 10.—When a physician who has been engaged to attend an obstetric case is absent and another is sent for, delivery being accomplished during the vicarious attendance, the acting physician is entitled to the professional fee, but must resign the patient on the arrival of the physician first engaged.

ARTICLE V.—DIFFERENCES BETWEEN PHYSICIANS.

SECTION 1.—Diversity of opinion and opposition of interest may, in the medical as in other professions, sometimes occasion controversy and even contention. Whenever such unfortunate cases occur and cannot be immediately adjusted, they should be referred to the arbitration of a sufficient number of impartial physicians.

SECTION 2.—A peculiar reserve must be maintained by physicians toward the public in regard to some professional questions, and as there exist many points in medical ethics and etiquette through which the feelings of physicians may be painfully assailed in their intercourse, and which cannot be understood or appreciated by general society, neither the subject-matter of their differences nor the adjudication of the arbitrators should be made public.

ARTICLE VI.—COMPENSATION.

SECTION 1.—By the members of no profession are eleemosynary services more liberally dispensed than by the medical, but justice requires that some limits should be placed to their performance. Poverty, mutual professional obligations, and certain of the public duties named in Sections 1 and 2, of Chapter 3, should always be recognized as presenting valid claims for gratuitous services; but neither institutions endowed by the public or by the rich, or by societies for mutual benefit, for life insurance, or for analogous purposes, nor any profession or occupation, can be admitted to possess such privilege.

SECTION 2.—It cannot be justly expected of physicians to furnish certificates of inability, to serve on juries, or to perform militia duty; to testify to the state of health of persons wishing to insure their lives, obtain pensions, or the like, without due compensation. But to persons in indigent circumstances such services should always be cheerfully and freely accorded.

SECTION 3.—Some general rules should be adopted by the physicians in every town or district relative to the minimum pecuniary acknowledgment from their patients: and it should be deemed a point of honor to adhere to these rules with as much uniformity as varying circumstances will admit.

SECTION 4.—It is derogatory to professional character for physicians to pay or offer to pay commissions to any persons whatsoever who may recommend to them patients requiring general or special treatment or surgical operations. It is equally derogatory to professional character for physicians to solicit or to receive such commissions.

CHAPTER 3.—THE DUTIES OF THE PROFESSION TO THE PUBLIC.

SECTION 1.—As good citizens it is the duty of physicians to be very vigilant for the welfare of the community, and to bear their part in sustaining its last institutions and burdens; especially should they be ready to cooperate with the proper authorities in the administration and the observance of sanitary laws and regulations, and they should also be ever ready to give counsel to the public in relation to subjects especially appertaining to their profession, as on questions of sanitary police, public hygiene and legal medicine.

SECTION 2.—It is the province of physicians to enlighten the public in regard to quarantine regulations; to the location, arrangement, and dietaries of hospitals, asylums, schools, prisons and similar institutions in regard to measures for the prevention of epidemic and contagious diseases; and when pestilence prevails, it is their duty to face the danger, and to continue their labors for the alleviation of the suffering people, even at the risk of their own lives.

SECTION 3.—Physicians, when called on by legally constituted authorities, should always be ready to enlighten inquests and courts of justice on subjects strictly medical, such as involve questions relating to sanity, legitimacy, murder by poison or other violent means, and various other subjects embraced in the science of medical jurisprudence. It is but just, however, for them to expect due compensation for their services.

SECTION 4.—It is the duty of physicians, who are frequent witnesses of the great wrongs committed by charlatans, and of the injury to health and even destruction of life caused by the use of their treatment, to enlighten the public on these subjects, and to make known the injuries sustained by the unwary from the devices and pretensions of artful impostors.

SECTION 5.—It is the duty of physicians to recognize and by legitimate patronage to promote the profession of pharmacy, on the skill and proficiency of which depends the reliability of remedies, but any pharmacist who, although educated in his own profession, is not a qualified physician, and who assumes to prescribe for the sick, ought not to receive such countenance and support. Any druggist or pharmacist who dispenses deteriorated or sophisticated drugs or who substitutes one remedy for another designated in a prescription, ought thereby to forfeit the recognition and influence of physicians.

[CONCLUDED]

MINOR INTELLIGENCE.

ALBANY will soon have a hospital for the treatment of infectious diseases. The new structure is estimated to cost about forty thousand dollars, and will be located in connection with the city hospitals. It will be ready for occupancy in January, 1904.

LEGAL proceedings were instituted recently against Oliver W. Marble, a Christian science operator of Sandusky, Ohio, for practicing medicine without a license. Accused had treated a fifteen-year-old lad for typhoid, and notwithstanding daily incantations peculiar to the cult were employed the patient finally died. The jury rendered a verdict of "guilty," but the culprit has appealed the case.

THE proprietor of a New York sporting publication has commenced proceedings against the Metropolitan Street Railway Company to recover ten thousand dollars damages for injuries sustained in falling from a car, whereby his personal appearance was marred by the loss of two teeth.

IN order to check the spread of contagious disease, the milk dealers of Cleveland have been ordered, by the Board of Health, to issue a system of noncirculatory milk tickets which will be handled but once, and then destroyed. As a penalty for disobeying this mandate licenses will be withdrawn.

IN an address delivered by Doctor Madden, of Cairo, before the First Egyptian Medical Congress, which convened recently, the speaker concluded his discourse as follows: "If something is not done, and that soon, tuberculosis must come to be numbered amongst the modern plagues of Egypt, in the same category with syphilis."

THE Prudential Insurance Company has been collecting statistics bearing on suicide, and finds that in fifty American cities having an aggregate population of fourteen and one-half millions, the rate of self-destruction during 1902 was highest in Hoboken, New Jersey, being thirty-five per hundred thousand, while in New York City the records disclose twenty-one.

SLOT machines, containing remedies for common ills, will soon be established in the streets of Paris, and medicine guaranteed to cure headache, toothache, et cetera, may be procured by inserting a cent in the slot. The Paris medical faculty has issued a certificate to the propagators of the system. Naturally the fad is not received favorably by physicians.

NORWAY has a system of treating drunkenness which is said to be very effective. The inebriate is placed in a prison cell and forced to subsist on wine-soaked bread. The first allowance of food is usually eaten quite willingly, but after eight or ten days nausea ensues and the appetite for liquor vanishes. In most instances a radical cure is the result of this peculiar "cell" metamorphosis.

DENTAL science is reaching a high state of development. A Moscow dentist is reported to have perfected a system whereby artificial teeth can be made to grow as firmly into the gums as the natural grinders! After a few months lodgment in the jaws extraction of the grafts is accomplished with difficulty. The nationality of the genius is not announced, but he is probably a Tartar.

THE shock of falling from a third-story window is usually sufficient to disable if not to cause the death of an ordinary person. However, such was not the case with Mrs. Mary Griebel, who fell from the rear end of a residence in Brooklyn. The woman weighs over three hundred fifty pounds, and when her superfluous flesh came in contact with the earth there occurred a succession of bounds sufficient to break the force of the fall. She arose smiling and unhurt.

The erection of a sanatorium in New York for tuberculous poor has been facilitated by an appropriation of three hundred thousand dollars from the legislature. An amount for the purchase of a site was contributed more than a year ago, but as yet a desirable location has not been found.

Doctor Thomas Addis Emmet, the distinguished gynecologist of New York City, and a grandnephew of the Irish patriot, Robert Emmet, has recently brought out, in recognition of the centenary of the martyred hero, which occurred September 20, an elaborate work entitled "Ireland Under English Rule." It is published by the Putnams.

Doctor Richard N. Connolly, bacteriologist of the health department of Newark, New Jersey, has discovered tetanus germs in blank cartridges sold in the shops of that city, and the president of the department has called a special meeting of the Board of Health for the purpose of adopting measures calculated to protect the community.

Infection from the clothing of a person who succumbed to smallpox thirty-nine years ago may seem rather incredible, yet the sickness and death of a young Indiana woman is said to be directly traceable to the wearing apparel of her father, which had been stored in a trunk since his death from the disease nearly four decades ago.

Egypt will soon have a traveling ophthalmologic dispensary, which will traverse the length and breadth of that country. Sir Ernest Cassel is the originator of the scheme, and it was through his gift of $100,000 that the project was facilitated. The dispensary will be housed in a tent and will be supplied with the most modern conveniences.

In the will of the late Doctor Spencer Morris, twelve thousand two hundred fifty dollars is bequeathed to the Medicochirurgical College of Philadelphia. The income received from this amount will, in accordance with the doctor's request, be awarded each year to the student of that college who receives the highest rating in scholarship.

Sidney, Australia, is contending with an outbreak of bubonic plague. Rats are blamed for the infection, and stringent measures are being employed to exterminate them. Of a certain number of the rodents examined, one hundred fifteen were found to be infected with the plague germ. A bounty of a sixpence is now being paid for every rat delivered to the authorities.

George Francis Train, who was recently discharged from a pesthouse at Stamford, Connecticut, as cured of smallpox, was so incensed by the indignities which were heaped upon him while incarcerated in that institution, that he intends beginning suit for damages against the city to recover fifty thousand dollars. After strenuously refusing to wear the clothing furnished by the county, George was forcibly wrapped in sheets saturated with hot bichlorid of mercury and conveyed in an ambulance to the home of his daughter. He is especially enraged because the authorities took the liberty to destroy several manuscripts found on his person.

THE following committee has been appointed by the Ohio State Board of Medical Registration and Examination to decide upon a curriculum for medical schools in that state: Doctors Edward J. Wilson, of Columbus; August Ravogli, of Cincinnati; Harris H. Baxter, of Cleveland; and Leo F. Towers, of Toledo.

HEREAFTER immigrants landing in the Philippines will be subjected to a medical examination, and idiots, persons suffering from contagious disease, and those who, because of mental or physical afflictions are unable to earn a living, will be excluded from the islands. The examinations will be made by the surgeons connected with the Marine Hospital Service.

DOCTOR ALBERT T. SHORT, late contract surgeon in the United States Army, has been appointed police surgeon of Manila. The police force is composed of both Americans and Filipinos, and as the doctor is one of several American physicians who have married into Filipino families, the appointment will probably be satisfactory to all concerned. Doctor Short expects to remain in the archipelago permanently.

THE French Antialcoholic Congress will convene in Paris, October 26 to 29, 1903, under the honorary presidency of M. Casimir-Périer. The congress will consider two questions: the prevalence of the alcoholic curse and the struggle against it; and the best plan of procedure for its suppression. The influence of the state, clergy, medical profession, et cetera, against the pernicious habit will also be discussed.

OVER seventy thousand dollars have already been subscribed for the proposed new hospital to be erected at Vancouver, British Columbia. A contribution of thirty thousand dollars from the residents of the city has been supplemented by gifts of twenty thousand dollars each from the municipal and provincial governments. A hospital to accommodate one hundred patients is contemplated, but the building is planned with a view to providing for three hundred persons in case of emergency.

NOTWITHSTANDING the fact that there are probably more than a score of monuments erected in France to the memory of the great Pasteur, the inhabitants of Marnes-la-Coquette, the district in which this investigator conducted many of his experiments, recently unveiled another memorial of the noted Frenchman. The work represents the bust of Pasteur surmounted on a column, and at the base a young man. kneeling upon the dead body of a canine and exposing an inoculated arm.

THE tribe of Iowan Indians of Oklahoma possess a gruesome cure-all in the form of a quilt made of scalps from the heads of human beings which were procured by their forefathers more than one hundred fifty years ago. The quilt is of various hues, according to the color of the hair of the unfortunate victim of the deadly knife. Tradition declares that the scalping was actuated by a special omen from the Great Spirit, who thereby commanded that about seventy scalps should be taken from representative members of several races, and woven into a quilt, to be employed in the treatment of disease. The heirloom is carefully guarded, being exhibited only on feast days and other important occasions. In case of sickness the quilt is wrapped around the afflicted person and the prayers of the entire tribe are offered for his recovery, with the idea that a cure will be effected.

RECENT LITERATURE.

REVIEWS.

SMALLPOX—ILLUSTRATED.*

It would seem that the printer's art had nearly reached its perfection in this work. The two sections, aside from being beautiful to look upon, have a special mission to not only those who have not seen many cases of smallpox, but also to those whose experience with the disease enables them to appreciate a good illustration.

The work is purely from the practical side, and in the descriptive matter the most space is justly given to the differential diagnosis. There are in all sixteen plates, many of which are in colors, illustrating all phases of the disease. The uncolored plates approach nearer the true picture. They are particularly clear. The colored plates illustrate the changes in the eruption in a more diagrammatic way. The work will be a valuable acquisition to the physician's library.

*By George Henry Fox, A. M., M. D.. In two parts. Published by J. B. Lippincott Company, Philadelphia.

INTERNATIONAL CLINICS.*

In this volume Doctor Kelly has collected a most interesting and valuable series of articles; so many and various, in fact, that an analytic review is out of the question. Some fifty pages are given to a series of contributions on the Summer Diarrheas of Children. The subject is discussed from the most modern standpoints, with the advance in exact treatment clearly described. Two articles on Diseases of the Pancreas, by Opie and Deaver, put the reader in possession of the latest knowledge on this important and rapidly-growing topic. Under Treatment may be mentioned a short but suggestive article on Trunecek's Serum in Arteriosclerosis, by Leopold Levi, and Rest Treatment, by John Madison Taylor. Louis Faugeres Bishop contributes an interesting account of Peripheral Causes of Heart Disease, F. J. Poynton one on Endocarditis in Childhood as a Symptom of Infective Disease, and Thomas E. Satterthwaite one on the Etiology and Diagnosis of Valvular Affections. Among the surgical topics may be mentioned a practical discussion of Abdomino-Pelvic Diagnosis and Abdominal Swellings, by E. Stanmore

Bishop. Cirrhosis of the Liver in Children, with Notes on Three Cases, by W. F. Hamilton, worthily represents Pediatrics. Obstetrics and Gynecology, and Ophthalmology have their contributions. The book is well illustrated, and, as the examples cited should make clear, forms a valuable addition to the library of the progressive physician.

G. D.

*A Quarterly of Illustrated Clinical Lectures and Especially Prepared Original Articles on Treatment, Medicine, Surgery, et cetera. Edited by A. O. J. Kelly, A. M., M. D. Volume II, Thirteenth Series, 1903. Philadelphia: J. B. Lippincott Company.

GYNECOLOGY.*

The book before us is unique in many ways. The author has thrown the traditions of the past aside with a boldness and deliberateness which, to say the least, is startling. A text-book of the diseases of women, devoid of bacteriology and minute anatomy is not published every year. But Doctor Pryor has been honest with himself and his reader. Starting out with the proposition that "it is not the province of a gynecologist to illustrate the findings of the microscopist or of the anatomist", he has adopted no half-way measures but has eliminated both these features completely from his book. This sentence is the keynote of the whole volume and is the interesting feature of the book. The writer has illustrated no one's findings, either in pathology or clinically. He sees through his own eyes and describes clearly and forcibly what he has seen. For that reason it must prove a book at once interesting and instructive to the practician and student. The author's striking independence and strong personality are shown in every page, and make the book doubly acceptable to those who are working in the same field.

The book is divided into two portions, the first being devoted to a description of diseases and the second to the operations performed for their relief. Naturally the author has followed an anatomical rather than a pathological classification. The order, however, is logical enough and a great improvement over some of the more recent and more pretentious text-books. The author has not hesitated to advocate his own methods and refrains carefully from mentioning those of others. This, however, is a good fault in a condensed text-book.

The typography of the book is excellent, and it is well but not too beautifully illustrated. On the whole, Doctor Pryor is to be congratulated on his book, which is far and away the most interesting of the special works in this line which has appeared in many months. It is safe to predict that it will be a success. R. P.

*A Text-Book for Students and a Guide for Practicians. By Doctor William R. Pryor, Professor of Gynecology in the New York Polyclinic Medical School, et cetera, with one hundred and sixty-three illustrations; 380 pages. Published by D. Appleton & Company, New York and London, 1903.

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ORIGINAL ARTICLES.

MEMOIRS.

AN AMERICAN MEDICAL STUDENT.*

(JAMES JACKSON, Junior, 1810–1833.)

By ALDRED SCOTT WARTHIN, PH. D., M. D., ANN ARBOR, MICHIGAN.
PROFESSOR OF PATHOLOGY AND DIRECTOR OF THE PATHOLOGIC LABORATORY AT THE UNIVERSITY OF MICHIGAN.

Ladies and Gentlemen: On behalf of the Medical Faculty, I bid cordial welcome to the new students, who, today, are entering here for the first time; and extend hearty greeting to the returning students of the higher classes. This initial welcome and greeting of ours is this year the more significant, in that we are welcoming you, not to the department of medicine alone, but also to this building, the new home of our department. To us, the members of the faculty, it is indeed a significant and auspicious occasion, in its realization of many hopes and the fulfillment of many desires for better quarters, better equipment and better teaching facilities. To you, the occasion is of similar import, in the more commodious and more convenient building which is now offered you for class-rooms and laboratories, and in the greater advantages thus afforded for the work necessary in your preparation for the practice of medicine. With this year, in our occupancy of this new building, there begins a new chapter in the history of this medical school. From the advantages thus gained we look forward to a period of increased activity and of greater progress. Good work was done under the old conditions; better work will be possible under the new.

Fortunate, therefore, you may well consider yourselves in entering upon the study of medicine with us at this time. You need but to compare the old quarters of the school scattered about upon the campus, with our present surroundings, in order to realize how much greater your opportunities than those of the many students who have preceded you in this school during the last fifty years. In the minds of most of you the burning question of the present moment is no doubt concerned with the problem of how best to take advantage of these opportunities now set before you. I would that I could disclose to you the coming four years, and solve for you in advance the problems and perplexities that will arise before each one of you individually as you penetrate further into the difficulties of your chosen science. Let me not attempt this with trite and well-worn advice of what had best be done, and what had best not be done, of what should be sought and what avoided. Each one of you must meet these difficulties with earnest endeavor and undismayed spirit. With such weapons you will conquer. Rather let me at this time point out to you the stimulus and encouragement that may be gathered from the contemplation of the life and character of an American medical student who lived in the early part of the century just passed—a young man, who, dying before the age of twenty-five, nevertheless, left behind him an imperishable memory, and a lasting influence upon American medicine. It may be that but few of you have ever heard his name. In that case I shall feel abundantly repaid in introducing to your notice one—a student as yourselves—whom Osler calls the "young Marcellus among the physicians of this country—'the young Marcellus, young, but great and good.' "

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* Opening address delivered before the Department of Medicine and Surgery of the University of Michigan, September 29, 1903.

James Jackson, Junior, was born in Cambridge, Massachusetts, on the 15th of January, 1810. His father, a man of wide culture and remarkable mind, was a graduate of the Harvard Medical School and, as was the custom of the time, had completed his medical education abroad. Devoting himself to the active practice of medicine, he was one of the founders of the Massachusetts General Hospital, and for many years occupied the chair of Theory and Practice of Physic in Harvard. His name is closely linked with the history of the early development of this school. We find him associated also with the earliest attempt to found a medical library in Boston. He was one of the first physicians in America to practice vaccination, and made important observations on the nature of typhoid fever. In 1816 he published a "Syllabus" of his lectures on Practice. His literary fame, however, rests chiefly upon the "Memoir" of his son (1835) and the "Letters to a Young Physician" (1855). In the elder Jackson there existed a rare combination of culture, common-sense and the so-called scientific faculty. He was an accurate and close observer, shunning theory, and in his practice never falling back upon therapeutic expedients for which he could give no adequate reason. These qualities combined to make him a most successful practitioner and teacher. Through his writings and through his teaching, but above all by that indefinable force of character, he exerted an immeasurable influence upon the medical profession of New England and of all America, an influence felt even at this day, in the debt which we of the present generation owe him as one of the chief instruments in bringing about a more rational conception of the treatment of disease.

From such a father came the younger Jackson, and under such an environment as that of Boston and Cambridge in the first quarter of the last century, was his boyhood passed. Of this boyhood we have but a glimpse as given by his father in the "Memoir." From his earliest age he exhibited great cheerfulness of temper, and an exuberance of spirit which, his father says, led him to be "often boisterous and annoying to those about him, but he was so good-humored they could not long be angry with him." Loved by his schoolmaster, the latter nevertheless found it necessary to punish him continually "for the sin of laughing," of which he could not, however, be broken. In spite of this inconquerable tendency toward gaiety of heart, he very early gave evidences that his mind could be interested in the more serious matters of life. His mental alertness at this early period was shown by the fact that he was never contented unless constantly active or busied with study or other occupation. It does not appear that as a boy he was more ambitious than his playmates, or that he strove for especial distinction in his studies, for any other reason than the desire of pleasing his father. When a little boy, he was once reproached by his father for allowing a younger schoolmate to take his place at the head of the class. His answer was that "the other boy ought to be at the head sometimes." The boyish naiveté of this we will not question, but the spirit of the answer may be taken as an indication of the boy's chief characteristic, an unselfish interest in the happiness of others, a characteristic which became more and more strongly developed as he grew to manhood.

In college, this strongly pronounced trait of ready sympathy led him naturally at first into the society of a set of students distinguished chiefly by their desire for a good time. Perceiving for himself the vices of his new friends and the dangers of such association he voluntarily broke with them, and never afterwards formed similar connections. "He was not led into habits nor into any feeling of austerity." Guided by the ideal of a purity of living he cultivated more and more the highest principles of duty and virtue; and each succeeding year saw his standard of excellence set higher. During his college course he lived for the greater part of the time with a private family of highest character, in which he was treated as a member and subjected to kindly restraint. Though industrious and given to systematic habits of study, he did not achieve any especial distinction for high scholarship during his college career. Instead of striving for class honors he devoted himself to a broader reading, and stored his mind with the valuable gleanings thus acquired. In 1828, at the age of eighteen, he received his degree of B. A. from Harvard University, and immediately took up the study of medicine under his father's direction and as his pupil.

Young Jackson began his medical preparation during the period of transition between the colonial method of medical instruction and that of the medical school. The third decade of the nineteenth century was a period of the development of medical schools. At the beginning of the century this country possessed but four schools of medicine, the University of Pennsylvania (1768), the College of Physicians and Surgeons of New York (1769), Harvard (1785), and Dartmouth (1798); one other, the College of Philadelphia (1790) having existed but a year. No new ones were created during the first decade; five new schools came into existence during the second; while during the third decade over a dozen medical schools were founded. During colonial times and the early years of the Republic the medical student obtained his training by serving an apprenticeship with some practitioner, whose books he read, whose "bones" he studied, and from whom he learned the art of bleeding and blistering, of pill, draught and emetic. The patients of the master formed the pupil's only clinical material, the talks upon the cases during their long rides constituted his only clinical lectures. Three years of such experience was considered sufficient to give a young man the training necessary for the practice of medicine. About the most distinguished practitioners of the time there collected groups of such "pupils," and from such a beginning the medical school developed by a natural process of evolution. Thus came into existence the schools of Philadelphia and Boston. For a long time, indeed even up to the last quarter of the century, the medical school served only to supplement and round out the instruction received from the preceptor. Spending but a few months each year in attendance upon lectures in school, the students passed the remainder of their apprentice years with some practitioner. Those who could do so completed their studies abroad, and many of the early practitioners of this country obtained degrees from European universities. Before 1820 Edinburgh and London were the chief seats of attraction, but after this time the influence of Louis and the brilliancy of the great French clinicians drew all men to Paris.

The opportunities enjoyed by Jackson in his medical studies were most exceptional. In the most perfect sympathy with his father, one of the most successful teachers of the time, he was enabled to make free use of the clinical material at the Massachusetts General Hospital. With the exception of the summer time he studied with great zeal the cases at this institution, while at college he heard lectures and completed his dissections. He seems to have plunged into his medical work with such energy and industry as to have excited in his father surprise as well as apprehension as to the result of his son's too great devotion to his studies. But the zeal of the young student waxed rather than waned. Before his second year of medical study was over he wrote a long dissertation on pneumonia which gained for him the Boylston prize. This paper was so warmly praised that his father was fearful that he might be thought to have aided him in its preparation. Besides the clinical material at the Massachusetts hospital he had many opportunities for the study of disease elsewhere, particularly at the Boston workhouse, to which he was frequently invited when there was anything of especial interest. Careful note-taking seemed to be one of his instincts. Lectures, cases, and particularly the autopsies which he attended were written up in so thorough and concise a manner as to offer excellent models to the present-day student. Twelve hundred folio pages of such notes bore witness at the end of two and a half years to his zeal and industry. During this period he had read also the standard English medical works, and many of the French. His habit of reading was to make notes, compare authors, and look up the references to older works in other languages. Alexander's translation of the Epistles of Morgagni, in three thick quarto volumes, he completed in seven weeks, taking notes and comparing at the same time with "Baillie's Morbid Anatomy." This was not, however, a perfunctory reading; he so mastered the work and fixed its details in his mind so firmly that later, when recording his autopsies in Paris, he was able to make marginal references to cases in the Morgagni. Years afterwards, his father was able to say that he had never been acquainted with any one who showed such an intimate knowledge of the details of this great work.

After two and a half years of preparation of this kind, his father regarded the attainments of his son sufficiently great to justify his sending him abroad at an earlier period than that which he usually advised for his pupils. This step was taken, not alone because of the young man's extensive reading, but chiefly because of the extraordinary powers of observation which he had developed. In 1831, when just past twenty-one years of age, he went to Paris.

In a letter of April 9 of this year, addressed to his son in New York, and received by him just before sailing, the father gives utterance to his natural solicitude regarding the hazards of the journey, and the temptations to be met with in the cities of the old world. From this letter I cannot forbear to make the following extracts:

"* * * I look forward with sanguine hopes of benefit from the opportunities you will have. I feel satisfied that you will not omit to avail yourself of them. It is this hope of benefit to you which reconciles me to your absence, for I have already begun to look to you as the most interesting companion for the remainder of my days. As to the hazards to which you are exposed, I certainly do not disregard them, yet I shall not allow a regard for them to make me unhappy. At least, I think so now. . . . . . . There is a risk of life—and it would indeed alter the aspect of my days if I did not hope to have you by my side and to leave you behind in this world. . . . . . . But this is the smallest risk by far. Whether we pass a few short years together in this world is comparatively of little consequence. Whether we meet in a better world is of immeasurable importance. This depends on ourselves, on the strict regard to morality which we both maintain. . . . . . . Now I am not insensible to the temptations to which young and old are exposed in Paris and London. I can think of them until I tremble. But my trembling is stilled by the confidence I place in you. This confidence is sincere and strong. It is not unlimited, but it is as great as it can be in any young man. I know that your fondness for society, arising from the best feelings, is very strong, but I feel assured that you know how to control it—and that your principles are strong and of the best kind. I shall not therefore allow myself to be anxious, and it is more to tell you this than to insinuate any cautions, that I have been led into this long statement of my views and feelings. . . . . . . I referred to the dangers of society—I wish to add that among men of the world, and I may say such gentlemen as a traveller meets, there is a sort of presumption conveyed in conversation that no one feels bound very strictly by the rules of morality. Now one need not turn knight-errant, nor missionary, to beat down the obnoxious principles thus indirectly maintained. But, on the other hand, I have never found any society, in which I needed to remain, in which a gentleman was bound to assent to such principles—or in which he might not declare his dissent from them, when he was compelled to speak of them directly. In short, a man never loses, but almost always gains with the worst men by pursuing an honorable and virtuous course. The share of reputation which you have yourself gained while leading a quiet, and you may almost say, a secluded life, shows you that a man gains reputation fully in proportion to his merits. Some persons must see your course—and by them, even while they do not think of doing so, it is published and fixes your character. Not that a regard to character is the highest motive to action, but I was led to speak of it in another view, namely, that a regard to it in the eyes of those about you, need not lead you to make sacrifices to their vices and follies."

The son's answer to this letter—emotional, enthusiastic, full of filial reverence and gratitude—breathes the characteristic spirit of youth, but exhibits a rare and charming modesty as to his own strength:

"You next speak, my dear father, of the temptations abroad to young men. I, too, can and do think, and have sometimes thought of them till I tremble. I feel myself to be weak, weaker than I should be. I am not phlegmatic—I have not yet learned to be master of myself—I am yet, too often, much too often, the slave of circumstances. I feel that this is to be the toil and study of my life, to become master of myself. . . . . . . In anticipating my future career in life, my mind is filled with what? I can tell you, for I have spent much time during the last three months in a serious consideration of the subject, and feel that I have arrived at somewhat more definite views than I had previously entertained. I would divide all the objects of my aim and efforts into two classes—the essentials and the desirables—and in a few words they are these: Among the first, are a moral character, in the fullest conception of the term, or in other words a life of virtue, so spent as shall be acceptable in the sight of God and render me fit to enjoy the blessings of the virtuous; an honorable and useful exercise of my profession—these two will perhaps include the only remaining essential, namely, such a situation in society, as to property, respectability and so forth, as every young man brought up as I have been feels it is his duty to expect and provide for."

Young Jackson arrived in Paris at a most auspicious moment for the future of American medicine. The fourth decade was the age of the great French clinicians and of the great master Louis; it may also be said to have been the *age of the inspired medical student.* This was peculiarly the case with the band of American students who gathered in Paris between the years 1830 and 1840. Among their names are those of the majority of the most celebrated of the teachers and leaders of American medicine during the middle of the nineteenth century: Bowditch, Oliver Wendell Holmes, Shattuck, the Warrens, Alonzo Clark, Mitchell, Mott, Gerhard, Pennock, Stillé, Muter, Pepper, and many others. The time was ripe; the eager American mind of the first quarter of the century broke away with enthusiasm from the speculative philosophy, theory, authority and empiricism which enslaved the world of medicine at the beginning of the century. Hunter in England, Bichat in France, the founders of modern physiology and pathology, had brought fertility to a sterile science by replacing speculation and theory with observation and analysis. In this country Bigelow and the elder Jackson were the early apostles of the new art and science of rational medicine, which the returning pupils of Louis carried forward with an impetus so powerful as to revolutionize completely American medicine. James Jackson, Junior, was one of the earliest of that brilliant group of hard-working students who gathered about Louis. A strong affinity seemed to exist between the French teacher and the American youth. Without especial letters of introduction, Jackson was almost at once the recipient of unusual civilities from Louis, even before his name was known to the latter; and was admitted to a free intercourse with the great teacher as flattering as it was valuable. Between the two—master and pupil—there grew up a rare and beautiful friendship, Louis treating him as a son, and receiving in return an affection second only to that which Jackson gave his own father. The reasons for this unusual friendship are not far to seek. Both men had in common a unique faculty—indeed a passion—for close observation of nature, and an absolute regard for the truth. Both were *truth-seekers,* and instinctively recognized in each other a kindred soul.

In Paris, Jackson's medical studies were begun by attendance upon three hospitals, La Pitié, Saint Louis, and the Hôpital des Enfans Malades. The clinics of Louis and Andral were held at La Pitié, and here Jackson finally came to spend the chief part of his time. Plunging with fervor into case-taking and autopsy work, recording carefully the results of his painstaking observations, the young student gave himself up to labors which would be regarded by the majority of students of his age today as all too arduous. But his heart was in his work, and his devotion to it increased apace. "The only temptation which he could not at all resist, was that furnished by the invaluable opportunities there offered to him for the increase of useful knowledge," says his biographer.

Unable to attend the children's hospital during the regular hours without losing some of his work at La Pitié, Jackson was fortunate in obtaining permission to make the evening rounds with the interne. He was thus able, in the absence of other students, to make a more detailed examination of the cases than would have been possible under other circumstances. His letters to his father during the winter of 1831-32 are almost wholly given up to enthusiastic descriptions of auscultation and percussion phenomena, histories of cases and arguments of diagnosis, interspersed here and there with illuminating remarks concerning his teachers, his surroundings and himself. On the 23rd of November, 1831, he writes:

"I am still following at La Pitié. I have made two or three efforts to follow Chomel at Hotel Dieu, but it is impossible to do so with advantage. One may hear the clinic to be sure, and a very good one too, but he cannot see the patients. This, especially in my present situation, is the more important by far. My great object is to accustom my ear to stethoscopic sounds; in order to do this I must see the patients. The visit at Hotel Dieu is commenced an hour and a half before clear day—by candlelight indeed; there are from two to three hundred pupils in the wards at the same time, and one is fortunate if he sees four patients, and examines one in the course of the visit. Whereas, the visit is made at La Pitié by daylight, there are not more than fifteen students, and I call it a black day in which I have not examined as many as six patients at least, who present stethoscopic phenomena—ordinarily I examine as many as ten. Besides, as I have told you before, Louis gives a little clinic at each bed. You see that I do right in giving the preference to La Pitié. I think I am becoming daily more able to distinguish the signs which indicate commencing phthisis. They are not one, but many."

In a letter of December 27 and 28, he enumerates thirty-three cases of stethoscopic interest that he had recently studied, covering practically the entire range of pulmonary auscultation. Such letters were written, not alone to convey to his father a realization of the opportunities he was enjoying, but evidently also for the scientific pleasure derived from them by the older man. Though none of the parent's letters are given in the "Memoir," it is clear from the letters of the son that the two exchanged *"cliniques"* in their communications, as well as personal and domestic matters. I know of nothing in medical biography so charming as this interchange of scientific interest between the young student in Paris flushed with the excitement of his great acquisitions, and the sympathetic and receptive father in Boston, who, in the pressing cares of a great practice, and of hospital and college duties, nevertheless, found time to write to the former descriptions of cases and arguments of diagnosis.

Upon the other American students, who were in Paris at this time, Jackson seemed to have made an impression similar to that exerted upon his teachers. In the "Life and Letters of Oliver Wendell Holmes" there is, in the letters written by Holmes from Paris at this time, a number of references to Jackson as one of the "first young men" there, and a "hard, very hard student;" and testifying also to the great advantages accruing to American students through Louis' warm affection for Jackson. Gerhard of Philadelphia, next to Jackson the most distinguished American student in Paris at this period, wrote as follows: "Pennock and myself are very happy to have become intimate with Jackson; he has superior talents, and his excellent education, conducted by his father, unquestionably the first physician in America, has cultivated his mind and developed an ardent attachment to medicine."

These three students, Jackson, Pennock and Gerhard, were so fortunate in the early part of 1832 as to induce Louis to give them a course of private instruction in auscultation and in the pathology and diagnosis of diseases of the chest. The delight of the young men at such an opportunity—the very best in the world at that time—was unbounded. In order to work up more thoroughly the pathologic anatomy of the cases which they had studied at the bedside in the wards of Louis and Andral, the three students made private arrangements with the internes by which they could visit the autopsy room in the afternoons, study the specimens more closely, and carry away to their own rooms small portions for a more minute examination. Jackson's letters at this period are given up almost entirely to enthusiastic outbursts concerning the value of careful observation, the immense diagnostic aid rendered by skillful auscultation and percussion; and through it all an immense reverence and admiration for Louis. During this time his interest in pathologic anatomy developed at a rapid pace. In a letter of February 17, he shows this by the following statement which is rather remarkable when we consider the youth of the writer and the time at which it was written: "—the man who enters the field of pathology with his eyes open, and does not love truth for truth's sake in his scientific researches, may possibly be a *moral* man, though I should almost doubt it, at any rate he will make a very poor practitioner. I must indeed work for my bread, but in working, if you take from me the interest which search after pathologic truth inspires, I can no longer work well."

About this time the most enthusiastic and brilliant of Louis' pupils planned the "Societé d' Observation Medicale," of which Jackson was one of the founders. The object of the society may be gathered from a letter written to his father on the 27th of February, 1832:

"Had medicine been studied for one hundred years, as Louis has now studied it, our knowledge of the natural history of disease would be placed upon an infinitely more certain basis; and diagnosis, and prognosis, and consequently therapeutics vastly more advanced. On my return I will prove to you the advantages of this system. Inspired with this belief, namely, that the only way to place our knowledge of disease upon a true basis, is to make rigorous observations, and to *count* them under their various bearings and relations,—a set of young men who have for a long time followed Louis (and some of whom I know or believe to be the most intelligent of the French students, my collaborators of whom I wrote yesterday) intend forming a society, whose main purpose is to make exact observations, over the whole world, as far as may be; and from these, properly arranged and submitted to the numerical method, to arrive in the course of years at certain and fixed laws. Those who have followed Louis, the father of this method, are alone to become members, and of these, I trust, only a select corp, for the majority are not fit to make accurate pathologic investigations. As yet, I am the only American who knows of their plans, and I certainly shall with great pleasure become a member, promising in all honesty to elicit from our public institutions whatever is in my power. I shall love to work for such a society, because it will be useful not only to myself, but all; and again by so doing I shall keep up an acquaintance with those Europeans who will be the most distinguished in medicine during my day. Say nothing of this as yet, for it is not made public—I shall write you as soon as the society is organized, and explain in full its objects, et cetera. It is to me a new spur to study— for I am now *learning how to observe.*"

The society was subsequently founded, and Jackson was during the next year of his stay in Paris one of its most zealous members. Before it, in 1833, he made a formal report of the important physical sign which he had discovered as a result of his careful auscultatory studies, as early as February, 1832. The first mention of this most valuable discovery is in a letter to his father of March 24, 1832.

"One word more about bronchial respiration. For as much as two months I have made the following remark, and from very frequent observations am quite convinced of its correctness. In some commencing cases of phthisis, when the respiration is not yet truly bronchial under the clavicle; when we still hear the vesicular expansion, and nought else on *inspiration,* I have discovered the bronchial sound on expiration. In other words, the bronchial *expiration* may be heard before the bronchial *inspiration*—it may be heard at an earlier period of the disease, and may thus become a very important sign as making known the disease yet sooner after its origin."

To how many of the thousands of American physicians who make use of *Jackson's sign* in the diagnosis of incipient pulmonary tuberculosis, is the name even known of the gifted young American student "whose quick ear first caught the sound and whose careful observation connected it with the condition that produced it." The value of the sign discovered by Jackson was immediately recognized by Louis and later, in this country, Austin Flint gave it the prominence which it deserves in the symptomatology of pulmonary tuberculosis.

As the spring of 1832 advanced, Jackson's father apparently urged him to leave Paris and visit England where he might study the collections of Hunter and Hodgkin. He was, however, reluctant to tear himself away from the fascination of his work with Louis. The breaking out of a serious epidemic of cholera in Paris during the first week of April delayed his departure and he remained to study the pathology of the dreaded disease. At a time when the epidemic assumed its most alarming aspect, when the streets of Paris were filled with frantic mobs from the lower classes who believed that they were being designedly poisoned, the courageous and enthusiastic young student decided, against his father's wishes, to remain and devote himself to the observation of cholera cases. The dilemma of conflicting duties in which he found himself is well expressed in the following extract from a letter of April 8:

"I almost weep to write you again from Paris. It is now the first moment of my life that I have been placed between two duties, each strong and binding, and where my difficulty is to decide which is the most so. But I have decided—as I know against your wishes. . . . . . . A medical man has his duties—I am but a boy in medicine—granted. But I am like the other Americans here about me. An opportunity is offered us of studying a disease which will probably visit our hitherto untouched country. Were the disease about you, would you fly? You could not, for the public would look to you. You would not, for your sense of duty would prevent you. I am, in a measure, in the same condition."

Within three weeks after the first appearance of the disease the daily mortality in Paris rose to eight hundred. In another letter Jackson writes:

"Now, for the disease itself—one word—it is death. Truly at Hotel Dieu, where I have seen fifty and more in a ward, it is almost like walking through an autopsy room—in many nothing but the act of respiration shows that life still exists—it is truly awful."

During the remainder of the month, as long as the epidemic continued to rage with any severity, Jackson practically lived in the hospital and autopsy room, engaged in the most laborious observations of the disease. The notes of these observations were most carefully taken; by the last of the month he had studied minutely between sixty and seventy cases and more than thirty autopsies. Beginning to show the effects of fatigue from overwork, he took Louis' advice and went to England, remaining there until the following autumn. During this time he continued his observations on cholera—which was then still epidemic—particularly with reference to the treatment of the disease with saline injections, then being extensively practiced. Spending the summer months in travel through Great Britain, seeing everything of medical note, he returned in September to London, where he remained several weeks studying Hunter's museum and Hodgkin's collection at Guy's hospital.

From London, October 1, 1832, he writes:

"I dined with Doctor M. Hall and was indebted to him for one of the grandest spectacles that human eye can behold. I witnessed the circulation in the web of a frog, under a microscope of one hundred magnifying power. I know not whether you have ever seen this or not; if not you have no conception of its beauty. With what ideas does it fill the mind!—the whole animal world thus teeming with life and motion in the most defined and regular vessels and regulated by unvarying laws. The artery is distinct, constantly dividing into smaller arteries, until it is at last separated into two capillary vessels. These are always of the same size, and thus differ from the arteries in this respect. They run in every direction and at last terminate in veins, between which and themselves, as to form and size, there is again the same distinction. In the second place, the blood is seen to move with different velocities in each of these three orders of vessels. As it courses its way along the artery, rapid as lightning, you cannot distinguish the globules; these become quite distinct in the capillaries, and yet more so, *I think,* in the veins; at any rate you can see them very distinctly in these last two series of vessels, whereas, in the arteries, they succeed each other so rapidly, as to form a continued line to the eye. It is a most glorious sight, and most ennobling to see the blood thus actively pursuing its course till it reaches the great and common reservoir, the capillaries; there delaying its progress in order that the formative vessels may make what use of it they will; and then slowly making its way back to the organs, where it has to be replenished with what it has lost or give up what it has acquired. When the web was wet with alcohol and inflammation had commenced, the capillary circulation stopped entirely in these vessels, while it continued to flow in the others. Upon this (which I know to be true, for I saw it) Doctor Hall forms an hypothesis concerning inflammation."

After writing up and arranging his notes on the cholera cases which he had studied in Paris, Jackson sent them to his father, for publication if the latter thought proper. They were accordingly published during the autumn by Carter, Hendee & Company, of Boston, in an octavo volume of 212 pages. The expressed object of the book was to throw light on the pathology of cholera. Restraining himself from speculations he made only such deductions as were offered by the facts. His only statement as to treatment was to the effect that nothing in the way of remedy had yet been found to influence the disease. I have been able to find but one review of the book—in the *American Journal of Medical Sciences* for November, 1832.

"The first (memoir) consists of cases collected in the wards of MM. Andral and Louis, two of the most distinguished pathologists of Paris, followed by some interesting observations, and with tables formed in accordance with the numerical system introduced by M. Louis. This memoir is by Mr. James Jackson, Junior, son of the eminent Professor of the Practice of Medicine in Harvard University, and is in every respect a creditable performance, and an earnest of future distinction. That this pledge may be redeemed the son has only to take as his model his father—whose undeviating rectitude of conduct, simplicity of character and ardent devotion to the advancement of his profession, has placed him upon its highest pinnacle."

By November 1, Jackson was at work again in Paris, where he was received by Louis with great affection, and given the greatest advantages the hospitals afforded. Through especial orders from Louis he was admitted at all hours of the day and permitted to spend the greater part of his time in the observation of cases. Nearly the whole of the winter and following spring he spent in the collection of cases, which were later to be analyzed according to the numerical system. With the arrival of July, 1833, came the time appointed for Jackson's return to America. He could scarcely bear to tear himself away from his work and from his friend and teacher, Louis. A more beautiful and sincere friendship between master and pupil has rarely existed. On the eve of departure from Paris, Jackson wrote:

"In two hours I shall be out of Paris. I will not attempt to describe to you the agony it gives me to quit Louis. He is my second father, and God knows that is a name I of all men cannot use lightly. I may not persuade you to look upon him with my eyes exactly, as a scientific man, but in your heart he must have the share of a brother, for he almost shares my affection for you."

That Louis felt a similar strong attachment to the young American student is shown by his letters to Jackson's father in which he urges the great value of Jackson, Junior, spending several years in the observation of disease.

Returning home in August, 1833, the enthusiastic disciple of Louis, after a few weeks spent in the pleasures of renewing his old associations, turned again to the study of disease. His father's connection with the Massachusetts hospital afforded him ample opportunities there; and from the practitioners of Boston he received the kindliest attentions, and was invited by them to see their more important cases and to attend their autopsies. Autumnal (typhoid) fever being epidemic in a very severe form, he seized the opportunity of studying the disease and comparing it with the fever of Paris which Louis had described so well. Just two months after his return home he himself had a severe attack of the same disease. After his convalescence, which lasted about three months, he began to prepare for his examinations for the degree of Doctor of Medicine. He had then been engaged in the study of medicine for five and a half years. Having a very natural pride and some anxiety, for he considered it to be a disgrace should he be found deficient in any one point, he applied himself zealously to his preparation for the examination which took place in the middle of February. This over, and the degree conferred, he began his arrangements for the active practice of medicine, his offices were engaged, but on the very day on which he intended to take possession of these, he became seriously ill. An intestinal trouble which he had acquired in Paris had recurred during his preparation for his examinations, but had been attributed to his nervous excitement at that time. It now assumed the character of a severe dysentery, and after three weeks of great suffering and brave struggle he died on the 27th of March, 1833, being then in his twenty-fifth year. Thus Fate prematurely cut the thread of life of the most promising spirit in medicine that America has yet seen among her many distinguished sons.

To you, as medical students, I commend as a precious heritage and a worthy ideal, the life of James Jackson, Junior. In this brief and inadequate account of his life, I have endeavored to acquaint you with one, who lived a pure life, who "shed a morning gladness about him;" who lived for the love of truth, and who, by his diligence and zeal, while yet a student, discovered one of the most important physical signs of pulmonary tuberculosis, and made valuable contributions to the pathology of cholera and the symptomatology of emphysema. Greater than these, was the influence he exerted upon American medicine through his immediate influence upon the rising members of the profession of his generation. To this influence is due in large measure the spread in this country of Louis' principles—the habit of thorough observation of the phenomena of disease in the living and in the dead.

To few of us is such a heredity and environment as that of Jackson given, and but rarely does such a gifted spirit appear. But to all of us is this one thing given—the *opportunity for the seeking of truth and for the loving of truth.*

NOTE.—For the greater part of the material used in the preparation of this address, the writer is indebted to the " Memoirs of James Jackson, Junior," by his father (1835).

THE COMPARATIVE VALUE OF SOME DRUGS.*

By WILLIAM H. BALDWIN, M. D., QUINCY, MICHIGAN.

THE adoption of this title might seem an assumption that drugs are efficacious in the treatment of disease, but in this day of scientific research, when claims must be investigated thoroughly, and at least a plausible theory given for their action, assumptions count for little, but proofs create the value, therefore let us determine first whether drugs have a value as medicinal agents, and, if so, we will compare some of them, and ascertain their relative worth in the domain of disease.

I am aware there are many medical infidels among us; they are prone to ascribe the value of drugs to their suggestive impression and their therapeutic effect to imagination.

This idea seems to prevail among the surgical brethren more than in any other specialty. As soon as a man becomes a surgeon, he loses sight of drug theraphy. If engaged in conversation about a case of tonsillitis he will say "remove them;" if the case is one of piles he will

* Read before the NORTHERN TRISTATE MEDICAL SOCIETY.

say "operate;" if it is cancer he will call you a quack if you suggest anything but the knife; and if consumption is the topic of consideration he will wink his eye and say "he'll die."

In my last ten years' experience I have operated on a number of boils without the loss of a single patient; I have lanced a few felons with one hundred per cent of recoveries; I have even removed corns and obtained healing by first intention frequently, yet, withal I have never lost my confidence in drugs, but have gained more faith in their virtue, together with a greater knowledge of their use and therapeutic effect, and I wish to reiterate what has already been stated before this association, that for every disease there is in nature, discovered or undiscovered, a remedy that will cure or alleviate. Whatever nature lacks in reparative power she furnishes in a restorative; whatever her defects may be, a remedy is afforded.

It is our province to search for these means and appropriate them, and how successful we have been in smallpox, malaria, diphtheria, and syphilis, we all know. It is nature that scatters the seed that grows the gigantic forest, but it is the hand of man that plants the grove with its symmetric beauty.

Have drugs a value? Let us see. A person comes to a physician, complaining of a dull headache; his tongue is coated a dirty-brown, which is not caused by tobacco; he falls asleep upon the least provocation; he is irritable; he cannot work because he is not able. After interrogating all his organs, the decision is reached that he is bilious. A couple of cathartic pills are prescribed, and after a few hours behold the change! His cheek again assumes a ruddy hue, the world, which to him was dark and devoid of pleasure, again awakens his interest, the sun resumes its normal brilliancy, and the man is well again. Was it imagination? Was it suggestion? No! it was two compound cathartic pills which cured him. Some may say it was nature assisted by the pills, but I claim the pills cured him. Again, a person comes to a physician with his hand over his eye. He complains of severe pain referred to temple or forehead, and his vision is more or less impaired. Upon examination a marked injection of the pericorneal blood-vessels is discovered and a rosy zone encircles the cornea; in other words, the patient has an inflammation of the iris. The physician instils a solution of atropin, the pupil dilates, the pain ceases, and the patient rapidly recovers. Did suggestion dilate that pupil? Was it imagination? No! it was atropin. The physician is confronted with an acute gastralgia. The countenance of the victim is blanched, and a cold, clammy sweat suffuses him; he is writhing in agony. A hypodermic injection of morphin relieves him in a few moments, and no amount of persuasion could induce patient or doctor to believe the effect due to suggestion. And so it is. The remainder of medicine is just as rational if we understood it as well as we do in the illustrations given. Constipation and cancer would be cured as easy could we but locate the remedy, and the medical pulse is today beating in joyous suspense, for the intuition is that we are now standing upon the threshold of a dawning day of enlightenment regarding heretofore incurable scourges.

Having at least established the fact in our own minds that there is a value in drugs for the cure of disease, we will now notice some of their comparative values. Let us first notice the preparations of opium, the monarch of the pharmacopeia. Opium is a very complex substance, made up of numerous principles which differ remarkably among themselves. In general terms it may be stated that morphin differs from opium in that it is less stimulating, less convulsant, more decidedly hypnotic and anodyne, is less constipating and affects the contractility of the bladder more. Morphin has less diaphoretic properties and produces much more pruritis than opium. Therefore in dysentery and certain forms of heart disease opium should be employed, but when pain is the principal indication or a profound state of narcotism is desired morphin should be used. Codein corresponds to morphin, but is feebler, four grains of this derivative being equal to one grain of morphin. It has anodyne and hypnotic qualities, produces sleep freer from disturbance, and the after effects are less disagreeable, but a decided influence is noted on the pneumogastric. This effect was beautifully demonstrated in a case of codein addiction, in which the patient consumed twenty grains of codein sulphate per day. Upon the discontinuance of the drug the pain was much less than from the withdrawal symptoms of morphin, the nervous symptoms seemed equally as great, but the difficult respiration was the predominant feature, the breathing becoming distressingly laborious. Codein is safer for children, is less constipating, and will produce sleep and quiet restlessness in typhoid and kindred conditions better than morphin. While, because not so intoxicating, it is practically free from habit-forming, yet its continued use will produce withdrawal symptoms analagous to other opium preparations. The same may be said of heroin and narcein, but in greater degree.

We will now consider that much-abused drug, quinin. The different preparations and alkaloids of cinchona differ but little in therapeutic value, doing so only by way of the amount of the alkaloids they contain, the effects of which are practically the same. The crude barks contain more of the bitter principle, which, being astringent, are more constipating. The discussion of this drug will consequently bear upon its value as compared to some other drugs. Of all the drugs of the pharmacopeia which have been sadly abused and misused this one heads the list. It dwells in the humble cottage of the lowly and abides in the palace of the lordly. It is prescribed for the baby and is given to the decrepit grandsire. It is given for piles and for toothaches, for corns and for headache, some doctors, even, especially some of the older ones, thinking no prescription is complete without it—a few grains of quinin on general principles. Not long ago I overheard a lady remark that there was no use sending for a certain doctor because quinin is all he will give, and she had taken enough of that. This drug received its reputation during malarial times when nearly everyone, sick or well, was the entertaining host of the germs of that disease, and I admit that in those days a few or many grains of quinin was good practice, but those days are past in southern Michigan, and consequently with their departure the value of quinin as a medicinal agent greatly depreciated. Its indications have become limited but such uses as it retains cannot be overestimated. In malaria, for instance, it is a specific unquestioned. In some forms of septic infection it usually exerts a marked action for good by reason of its power to enter the blood stream unchanged and there produce its antiseptic effect. That it possesses the power to increase the contractions of the uterus during the first stage of labor I have been able to demonstrate in a goodly proportion of cases, and in small doses the bitter principle acts as a stomach tonic, increasing the appetite and digestion. Otherwise as a tonic it is a dismal failure, and, that it should not be used as such is demonstrated by experiment, for we find that it acts on the hemoglobin of the blood impairing its power to transport active oxygen or ozone into which the ordinary oxygen of the air is converted. Bintz has shown that so small a quantity as one part to twenty thousand exerts this action to considerable extent. The same authority has shown that quinin inhibits or lessens the activity of the white blood corpuscles, and indeed destroys them or arrests their production, for in cats poisoned by this agent the number of white corpuscles was found to be considerably less than in unpoisoned animals. Baxter and Cutter made extensive experiments and established the fact that the ameboid movements of the white corpuscles were greatly lessened. Hence it is called a protoplasmic poison. It also arrests the migration of the white corpuscles, and when we are aware that the white corpuscles of the blood are the scavengers of the human body, constantly yielding their lives to free us from poisonous accumulation we can arrive at a conclusion of the damage done by the wholesale indiscriminate use of the drug. As a stomach tonic it is greatly exceeded by any of the other bitter tonics which do not possess its disadvantages.

As a tonic, one dose of strychnin is worth a dozen of quinin. Strychnin produces a clear eye, a clear brain, a steady nerve; quinin produces a dull eye, a heavy brain, and no effect on the nervous system. Every dose of quinin given in typhoid, la grippe, or pneumonia, retards the convalescence of the patient, because it retards reconstructive metamorphosis, a thing not desired in these virulent tissue-destroying diseases.

Remedies for the heart are divided into tonics and stimulants. Cardiac tonics are those drugs which stimulate the heart muscle itself. Stimulants are those agents which increase the force and freqeuncy of the pulse. Among the stimulants are ether, alcohol, heat, ammonia, atropin, cocain, camphor, chloroform and nitroglycerin. Among the tonics are digitalis, strophanthus, cimicifuga, caffein and strychnin. While time will not permit me to compare all of them, I wish to call attention to some fallacies in prescribing remedies for that important organ, the heart. To some practitioners the term heart disease means digitalis. The harm done by the indiscriminate prescribing of this drug is only limited by the inefficiency of it, and the fact that many of the conditions diagnosed as heart disease are not diseases at all but only functional disorders. The truth is that few cases of heart disturbance, even if disease really exists, call for this drug which are not, if given a good drug and in sufficient dosage to produce effect, injuriously if not seriously affected. Let us see how it acts. We find by referring to authority that it prolongs the diastole, and increases the vigor of the systole caused by a contraction of the arterioles, which increases the resistance in front from a narrowing of the calibre of the blood-vessels. It is indicated when the action of the heart is weak and rapid and arterial tension low, and is contraindicated when the heart is vigorous and arterial tension high. 'It should not be used in fatty degeneration, simple hypertrophy, or aortic stenosis. Strophanthus is a much better all-around drug, for, instead of strengthening the heart by putting more work upon it, it strengthens by stimulating the heart muscle itself. It strengthens the interval between the contractions, and increases them. I have found a combination of digitalis and strophanthus to be an effective one, using enough of the former to give tonicity to the arterioles but not increase the blood pressure. A combination against which I wish to protest is made up by every tablet manufacturer, and included in the armamentarium of nearly every physician who dispenses his own drugs. It is composed of digitalis, strophanthus, and nitroglycerin. We have briefly reviewed the physiologic action of digatilis. Nitroglycerin has just the opposite action. It increases the beat of the heart and dilates the arterioles, and therefore is physiologically incompatible. The reason why results are obtained from that combination is because the digitalis is inert or the nitroglycerin, the action of which is fleeting, has spent its force before that of the digitalis takes place, or the combined action of the nitroglycerin and strophanthus is sufficient to overcome the other. But what brain could ever conceive a case wherein both these drugs could be indicated is one of the ever-occurring conundrums of medical practice.

THE TREATMENT OF EXTERNAL OPERATION-WOUNDS.*

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THE treatment of operation-wounds begins with their making. Leaving out of account the length and depth of incisions in their effect upon the healing process, it is a fact of common observation that a smooth, clean cut heals more quickly and leaves less scar tissue than a succession of hacks. It is important for most surgeons also that the skin incision be not shorter than the deeper wound, since otherwise dead spaces may be overlooked and left unremedied. The direction of an incision is often a material factor, for the apposition of tensile structures largely depends upon whether they have been merely separated or divided. Before all these considerations, however, is the surgical cleansing of the site of operation, the hands of the surgeon and all assistants, and every article brought into use. In preparing the site of operation it is not essential that the Lister method be adhered to. In fact the strong carbolic acid solutions, the antiseptic spray and iodoformizations may be toxic to both patient and operators. Without describing the many methods now in vogue for securing asepsis, or even going into detail in any particular, it may be said that a full bath, shaving the site of operation, a soap poultice, thorough washing with soap and water, liberal use of safe germicidal solutions, and ether or alcohol combine the most practicable means for treating the skin of the patient, while the hands of the operators are best prepared by cutting and cleaning of the nails, washing in soap and warm water, applying chloride of lime and carbonate of soda in the form of a paste, immersion in an antiseptic solution and the wearing of sterile gloves. These precautions having been anxiously observed, the final result may be considered to depend upon later contingencies.

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*Read before the WAYNE COUNTY (Detroit) MEDICAL SOCIETY.

Before closing the wound at the end of an operation, all hemorrhage should be stopped. In fact, whenever it be possible, loss of blood should be forestalled. In securing these results, however, the vulnerability of all living tissues should not be forgotten. Unnecessary and promiscuous compression by hemostatic forceps is to be avoided. Let the ligatures be only sufficient for the purpose and their size be as small as shall be compatible with their function. Sponging is to be done by gentle pressure rather than by rubbing or wiping a wound. Disregard of these details will cause a wanton destruction of tissues and sometimes unexpectedly put a forfeit upon the final result.

If, perchance, hemorrhage shall continue or begin afresh after the wound has been closed, even though it be not sufficient to cause shock, wound structures will be separated and the possibilities of sepsis multiplied. In such conditions, unless asepsis be absolute, drainage will be required. This artificial excretory channel is a necessity also whenever the wound tissues are bruised, diseased or infected. The growing tendency is to avoid drainage, but under the circumstances mentioned it becomes a necessary evil, or at least a choice of two evils. So essential is it in some instances that life depends upon it. Physiologic elimination having become impossible or inefficient, in the absence of artficial aid the blood soon becomes loaded with the products of disease.

The choice of drainage materials will depend upon the character of the wound and the skill of the surgeon. Larger drainage is needed for deeper wounds than for those more superficial. Perforated glass and rubber tubing are standard. It is of advantage often to induce capillary action through these, which may be done by means of gauze, or by fashioning a Mikulicz's drain. For superficial drainage gauze, silkworm gut, catgut and horsehair are usually sufficient. Whatever material be used, it should be removed at the earliest possible moment.

The suture materials in most common use are silk, silkworm gut, catgut, kangaroo tendon, ox tendon, horsehair and silver or steel wire. Although wire is the only inorganic suture among them, catgut is practically the only absorbable one. When chromicized, catgut is a very good substitute for kangaroo tendon and ox tendon. Silk, silkworm gut, horsehair and wire are sterilized by boiling in water for an hour, and may be kept safely in strong alcohol or in five per cent solution of carbolic acid and water. The preparation of catgut has been a sore trial for many surgeons for years but now several very satisfactory methods have been sought out, among which are Van Horn's and those described by Senn and Ochsner. The last named is simple and is thus described:

"Catgut is prepared by immersing in sulphuric ether for one month, then for one month in strong commercial alcohol, in which one grain of corrosive sublimate to the ounce has been dissolved, the solution being renewed once during this time. It is then preserved indefinitely in a solution of one part of iodoform, five parts of ether and fourteen parts of strong commercial alcohol. This catgut will last seven to ten days in tissues, according to the size used."

For use in suturing bones and in hernias a chromicized catgut is recommended, prepared as follows:

"The catgut is immersed in ether for one month, then in a solution prepared in the following manner:

Take:

A. Chromic acid	1 part
Water	5 parts
(Carefully dissolve.)	
B. Take of Solution A	1 part
Glycerin	5 parts

Take Solution B and soak therein catgut for forty-eight to ninety-six hours, according to resistance wanted. Forty-eight hours will resist absorption by tissue for fifteen days; ninety-six hours will resist for thirty days.

C. Take catgut out of Solution B, rinse quickly in sterilized water to free it from Solution B, stretch and rub quickly with a hard, sterile towel to remove any of the Solution B which may still be adhering to it, wind on rods or slides at least three inches in length, and preserve indefinitely in the following solution:

D. Carbolic acid, ninety-five per cent	1 part
Glycerin	5 parts

The catgut may remain in this solution for many months without depreciating in quality, or it may be kept for an indefinite period of time in the same solution as plain catgut."

The so-called catgut infection is ascribed by Ochsner to one of five conditions, namely: "(1) commercial catgut which may not be reliable; (2) catgut that has been saturated with antiseptic substances which cause a necrosis of the tissues included in the suture or ligature; (3) pressure necrosis due to tying the stitches too tightly; (4) infection of the catgut by careless manipulation by the surgeon or his assistants, the suture or ligature being permitted to touch objects not sterile; (5) infection of the catgut by the septic hands of the surgeon or his assistants."

Silkworm gut possesses the most desirable qualities of a suture for external wounds and is therefore a great favorite. It is small in size, smooth, easily sterilized and durable. It may be applied either continuously or interruptedly. Horsehair possesses similar qualities, but its use is more limited to facial wounds. Silver wire is especially adapted to sustain great strain, but even in this class of cases may be substituted by silkworm gut.

The characters of needles are seldom commented upon as though they were of little consequence. Without dilating upon this subject the plain statement may be made that whenever possible the round, sharp-pointed needle should be used. In practice it is applicable to serous structures, while a flat needle with slightly cutting edges is better suited to the integument. Needles having three sharp edges cause more bleeding, and form large gaping wounds that tend to tear still more. Straight needles are adapted to plain surfaces, while curved ones are better used in cavities and depressed tissues. Inasmuch as smaller and shorter needles may in general be inserted by the aid of needle holders, their adoption is to be recommended.

The methods of applying sutures are various and well known. While much depends upon the skill of the surgeon, there are real advantages belonging to the different forms. A wound may perhaps be closed more quickly by continuous than by interrupted sutures, but the former do not permit of the establishment of drainage so well as the latter and the wound will gape through its whole extent if the continuity be broken at any point. The interrupted suture is more generally applicable than any other form. The chief points to be decided are the needs of buried and relaxation sutures. In operations through a thick tissue wall it is very important to avoid dead spaces. Buried sutures are calculated to accomplish this very purpose by bringing corresponding structures into accurate apposition. If the incision involves the peritoneal cavity, the danger of hernia may at the same time be lessened, since the amount of scar tissue is thereby diminished. It is a principle in the art of surgery, however, that as little as possible of foreign material should be left within the tissues, and especially within constricted tissues. Except for this, buried sutures might be universally adopted. If as much care be used in the insertion of through and through interrupted sutures as in buried work, we believe the same results might be obtained with removable material. The principle conceives of a suture including relatively much more muscular than skin and serous structures, each layer of muscles being brought into close approximation. In diagram this suture has a circular rather than a rectangular form. The relaxation suture is almost paradoxical in its actions. It does relax superficial structures but at the same time firmly grasps those deeper in the wound. In adopting this form of suture it will usually be necessary to add another layer to coapt the integument. Whichever form or method be adopted, except as modified by drainage, it is more important to make close approximation of deeper than of superficial tissues. In tying them the nutrition of the constricted tissues must not be cut off.

Partial closure of wounds may be effected by adhesive plaster overlying the dressings and adhering to the integument on either side of the wound. Adhesive plaster and bandages may also be made use of for purposes of wound-closing by compression. It is apparent that, if for any reason, the wound needs to be inspected or redressed removal of the dressing will permit the wound to gape. In general it may be said that except to hold in place the outermost dressings and bandages, the use of adhesive plaster is not calculated to promote the aseptic treatment of wounds.

When an operation has been performed according to the principles indicated in the foregoing and the wound edges have been accurately coapted, the outer dressings need be little more than a simple protective against the impurities of the atmosphere and of those things with which the site of operation might come into contact. For this purpose sterile gauze is amply sufficient. If, however, there be raw surface or a portion of the wound not covered by integument, the most satisfactory artificial, according to my experience, is gutta-percha tissue laid on in narrow strips. This material does not adhere to and destroy the fine granulation tissue cells and will allow the wound secretions to be gathered and absorbed by the superimposed dressings. Collodion is applicable to clean wounds that need no other covering.

THE TREATMENT OF APPENDICITIS.

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ACCORDING to some there are three views of the profession on this subject: (1) Exclusive surgical, (2) exclusive medical, (3) medical treatment, as a rule, surgical treatment of cases in which the indications for an operation are clear.

The fact that from eighty to ninety per cent of all cases of acute appendicitis recover with judicious medical treatment, is proof against our extremists' idea that all cases should be operated on during the first twenty-four hours. Then, too, the loss of ten cases in each one hundred is equally convincing that some cases require more treatment than any physician alone can give. Therefore I am a firm believer in the plan outlined in the last method, or the mixed treatment. Just when the case ceases to be medical and enters the surgical domain is a very important point and one calling for much common sense and sound judgment.

In the beginning of an acute attack I always insist on complete rest in bed, clear the intestinal tract of all foreign material by a mild cathartic—magnesium sulphate in one drachm doses, well diluted, every half hour until four doses have been taken, when, if not effectual, I give a small enema of soap and water with the addition of one drachm of turpentine if there is much tympanites during the first twenty-four to thirty-six hours. I administer nothing by the stomach except what water the patient desires. At the outset I am in the habit of applying the ice-bag to McBurney's point and continuing it until all symptoms of the disease have subsided. Some authors recommend heat instead, among them W. F. McNutt, of the University of California. This treatment always seemed to me to be contraindicated for we know that heat increases the tendency to suppuration and aids the growth of bacteria, while on the other hand ice decreases both of these. Great care should be given to diet, which must be liquid, giving only those things which leave the least residue. In extreme cases only does it ever become necessary to resort to morphin or opium, for while relieving pain they produce symptoms so marked that the gravest conditions develop, and we lose our patient through overkindness. The ice is a very good substitute for those narcotics for the relief of pain.

The questions of surroundings, location, and the opportunity of securing skilled surgeons should be very thoroughly considered before an operation is advised, for in unskilled hands and with unclean instruments the patient's chances are better for recovery with only the internal septic material to fight against than to have added that from without by a tyro. Nature is very kind and with some assistance and no hindrances on our part, I feel that more patients will be saved than by entire surgical means.

During my term of service in the Michigan Reformatory, I have treated along the plan outlined quite a number of cases of acute appendicitis, none of which have had recurrent attacks while under institutional care, but when the time of service is taken into account, some allowances should be made for no recurrences. The average temperature at the outset was 99.3°, pulse 100, both increasing until the end of the third day, when the temperature was 103° and the pulse 120, receding at about the end of the tenth day and becoming normal at the end of the second to third week. Some recommend that if the temperature and pulse (especially the latter) increase the second and third day, it is a case for the surgeon, but this has not been my experience, although my chance for observation has been limited.

Syms, in the *New York Medical Journal* of May 15, 1897, outlines the following expectant treatment, which is about the same as I have given and which has served me so well: Put the patient into bed and keep him there; apply over the whole iliac region a soap "poultice," consisting of a thick layer of green soap, spread on a single layer of muslin or lint; over this apply an ice-bag or ice-coil; relieve the bowels by soap and water enema; keep the stomach at rest while vomiting exists; restrict the diet to milk or clear broth; note temperature, pulse and respiration every four hours.

I never give morphin or opium, except in cases of abdominal shock from rupture of the appendix. In closing I wish to urge the use of ice in place of the so-common poultice, as it lessens danger of peritonitis, checks the growth of bacteria and relieves pain. The magnesium sulphate removes the effete material from the intestinal tract, eliminates the bacteria, and, I think, too, that it lessens the danger of general peritonitis. So far I have had no deaths and I am sure there would have been, had operation been employed, with the hospital equipment we have at our command.

ORIGINAL ABSTRACTS.

MEDICINE.

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THE ACTION OF HUMAN GASTRIC JUICE UPON THE TUBERCLE BACILLUS: A CONTRIBUTION TO THE STUDY OF PRIMARY GASTRO-INTESTINAL TUBERCULOSIS.

Ferrannini (*Journal of Tuberculosis*, Ocober, 1903) in considering the subject of the paper refers to what might be styled the two schools of gastrointestinal tuberculosis, one of which adheres to the belief that it is possible for infection to take place through the stomach, and the other taking the opposite view. The results of the author's experiments lead him to coincide with the views of the former.

The author is of the opinion that the various experiments instituted by previous workers have not been conducted under the best conditions and for this reason the results obtained are uncertain and of no value in clinical work. He further points out that as early as 1884 Sormani noted that the gastric juice of some animals does not possess the power of destroying the virus of tuberculosis, and also that the tuberculosis virus is quite resistant to artificial gastric juice. On the other hand in certain other animals the gastric juice is capable of destroying the tuberculosis virus.

The author criticises the fact that, in view of Sormani's work, subsequent observations were not confined to experiments with human instead of artificial gastric juice.

In his work Ferrannini attempted to imitate the conditions obtained during digestion by placing tubes containing gastric juice of varying acidities in the incubator at body temperature after adding to them fatal doses of human tubercle bacilli. The tubes were allowed to remain in the incubator for from one to two hours, then neutralized and injected intraperitoneally into guinea pigs. The results in all cases were quite uniform. No pig escaped infection. Those inoculated with gastric juice containing two per mille of free hydrochloric acid died later than the others.

The author concludes that human gastric juice, even when it contains two parts per one thousand, cannot protect the gastrointestinal tract from tuberculosis infection. D. M. C.

THE BACTERIOLOGIC EXAMINATION OF THE BLOOD IN TYPHOID FEVER.

Ruedeger, in *Medicine* for April, gives the results of his investigations of the blood of thirty cases of clinical typhoid fever, two of which proved to be paratyphoid and one doubtful. The method employed is that detailed by Cole. The value of this method of diagnosis may be best understood from the author's deductions, which are as follows:

In all probability typhoid bacilli circulate in the peripheral blood of all typhoid fever patients during the first few days of fever and at the beginning of relapses and recrudescences, disappearing from the blood shortly before the temperature begins to fall. As the typhoid bacilli are abundant in the peripheral blood during the first few days of the disease, it becomes possible, by the demonstration of their presence, to make an early and positive diagnosis, frequently before the reaction of agglutination can be obtained. By cultures from the blood it also becomes possible to differentiate between typhoid and paratyphoid fever. The method of blood culture is comparatively easy and simple and can readily be applied in clinical work, private as well as hospital. It must be applied early in the disease. D. M. C.

SURGERY.

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GASTRIC ULCER.

A. H. Cordier, M. D., of Kansas City, read a paper before the American Medical Association at the New Orleans meeting, entitled, "Gastric Ulcer" (*Journal of the American Medical Association*). He remarked that the surgeon has once more pushed himself into the domain of medicine and has taken not alone the glory but the cases as well from the general practician. Pylorectomy and gastroenterostomy both performed in 1881, he considers the starting point of modern stomach surgery. He has carefully excluded tuberculosis and malignant disease from the cases selected and notes that the most common location for gastric ulcer is the pyloric end and the posterior wall of the lesser curvature. Hemorrhage causes death in five per cent of acute cases and twenty per cent of chronic cases. The symptoms are considered in a general way but more attention is given to operative measures. He has performed gastroenterostomy for three cases, using the Murphy button. All of the buttons were recovered, one at postmortem six years later. He says that the buttons did the patient no harm though one end of it was partially destroyed. Success in these operations leads him to believe that many cases resisting medical treatment should have a gastroenterostomy performed as the mortality in this operation is far less than for the removal of the ulcer. Doctor Carstens agreed with him in his remarks but would prefer to use a McGraw ligature rather than leave a Murphy button in the stomach for six years.

CALCULOUS ANURIA: ITS DIAGNOSIS AND TREATMENT.

Arthur Tracy Cabot, of Boston (*Annals of Surgery*). Calculous disease of the kidney may cause suppression, the calculi irritating the kidney substance and causing it to become disorganized. The condition terminates fatally with symptoms of uremia but suppression in this form is rarely complete until the end of life.

The ureter may be blocked by a stone. This is calculous anuria. Suppression is usually complete until the stone is removed or there is a fatal termination in from three to ten days. The stone may shift and a flow of urine may be followed by improvement in symptoms to be repeated again. Both kidneys may be affected at the same time. One kidney may be absent or previously destroyed. The stone may back up into the kidney, or come down to the bladder, but such a termination is rare, an operation usually being necessary. The mortality under the expectant plan of treatment is very great, about eighty per cent. Various methods of diagnosis may be employed, rectal and vaginal touch, the *x*-ray, urethral cystoscopy, and catheterization of the ureters. A number of cases are then reported to point out the difficulties encountered in diagnosis and operation.

Operation consists in removing the stone. This has sometimes been done by vigorous massage along the line of the ureter. When located in the pelvis of the kidney or near that point in the ureter, it may be removed by nephrotomy. In the lower end of the ureter in the female it may be removed by an incision through the vagina. A stone has been removed from the ureter near the bladder end, through a dilated urethra. The lower end of the male ureter may be opened by a Kraske incision. When the symptoms are present but no stone can be demonstrated, the operator is advised to cut down upon and open the kidney, explore the ureter or strip it from above downward. When in doubt as to the side involved, open the abdomen and carefully examine both kidneys. If a stone is found in the pelvis of the kidney, remove it by an extraperitoneal incision.

GYNECOLOGY.

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PELVIC DISEASE IN YOUNG GIRLS.

F. F. Lawrence, of Columbus, Ohio (*Journal of the American Medical Association,* October 17, 1903), calls attention to the popular prejudice against examination of the genital structures in young girls and the evils resulting from this neglect. He asserts that the symptomatology is very misleading but states that the most common and important symptoms of pelvic disease in this class of patients is menstrual pain. The causes of this pain he classifies as follows:

I.—PELVIC.

- (1) Uterine
  - Displacements
  - Infantile uterus
  - Metritis
  - Uterine fibroids
- (2) Intrauterine
  - Endometritis
  - Uterine polypus
  - Submucous fibroid
- (3) Ovarian
  - Chronic ovaritis
  - Prolapse of ovaries
- (4) Tubal
  - Septic salpingitis
  - Catarrhal salpingitis

II.—EXTRAPELVIC.

- Neurasthenia
- Anemia
- Chlorosis.

Displacement is not in itself sufficient to cause this pain, which is due to the resulting inflammation of uterus, tubes and ovaries with the consequent formation of adhesions.

An infantile uterus is unable to perform its proper function on account of the almost embryonic condition of the endometrium. Pregnancy or removal of tubes and ovaries is the only cure.

Metritis is a common cause of pain. This is due to irritation of the uterine ganglia and pressure on the pelvic vessels, which retards the amyloid degeneration of the superficial mucosa and destruction of the mucosa. This condition should be relieved by curetment and local treatment.

Uterine fibroids produce pain by mechanical obstruction of the pelvic vessels and compression of the pelvic nerves. A cure may be effected by removal of tumor or by producing an artificial menopause.

Salpingitis usually follows an endometritis and is associated with venous engorgement of tubes and ovaries. This causes marked premenstrual pain which is relieved by the establishment of the flow. Curettage, if resorted to early, will prevent involvement of tubes and ovaries.

Ovarian hyperemia is a common cause of pain. The treatment should be such as to direct the patient's attention from her genital organs because the hyperemia is often due to ungratified sexual desire. Change of social and domestic surroundings is necessary for, if this condition is not relieved, a chronic ovaritis may result which will often necessitate removal of tubes and ovaries.

The pain of prolapse is due to the resulting inflammation and adhesions and should be corrected by operative measures, either by removal of the ovary or shortening the uteroovarian ligament.

Extrapelvic conditions are frequently the cause of menstrual pain. Anemia, chlorosis and neurasthenia often produce this. Treatment for these conditions should be faithfully pursued. Care should be taken to exclude all local organic disease.

Leucorrhea is always evidence of pelvic disease. Tuberculosis, gonorrhea, herpes genitalis or traumatism may be the exciting cause.

In conclusion, Lawrence lays special emphasis on the following:

A thorough examination should always be made in all cases of menstrual, premenstrual or intermenstrual pain.

Microscopic examination should be made of leucorrheal discharges.

All cases of excessive flowing should be thoroughly examined.

The cause should be determined in all cases of amenorrhea.

Neurotic symptoms in young girls are often due to pelvic disease.

A pelvic examination should be made if menstrual pain, irregularity, leucorrhea or neurotic disturbances follow the exanthemata.

In all virgins the rectoabdomnial method of examination should be used if possible—the vaginal touch when absolutely necessary.

C. L. P.

OPHTHALMOLOGY.

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CHANGES IN REFRACTION.

S. D. RISLEY, Philadelphia (*Ophthalmic Record,* March, 1893). In the writer's early experience he had come to believe that the static refraction of an eye was a "fixed or practicly immutable quantity" except in the presence of pathologic conditions; and that when the patient returned and a difference was found in the refraction that it was due to an error in the first determination; or when changed by a colleague that it was due to careless and inaccurate work; and while believing in the vast majority of instances there are no changes in the static refraction of healthy eyes, admits there are numerous exceptions to this rule.

Several cases are reported in which the amount of astigmatic correction was increased, the angle changed, and in one case in which a quite marked degree of hyperopic astigmatism later developed into simple hyperopia. The cases reported rigidly exclude from consideration any which involve a stretching or distention of the ocular tunics.

SKIASCOPY AS A METHOD OF PRECISION.

Edward Jackson (*Journal of the American Medical Association,* September 5, 1903) prefaces his paper by the following remarks:

It is difficult to realize how one may understand the theory of a method, and may employ it habitually in practice, and yet may attain results of insignificant value, as compared with what might easily be reached by a little more exactness. The difference between a loose method and a method of precision may be nothing in theory and trifling in detail, but enormous in practical usefulness. A scientific method becomes a method of precision, and attains practical value by comparatively slight modifications, but these may be made or adopted very slowly.

He then reviews some common clinical methods discovered years before they became generally used, showing that it was inevitable that skiascopy should pass through a period of development. Continuing, he says: For skiascopy this stage of development has not yet passed, but it has gone far enough for us to place the shadow-test among our methods of precision. The time for being content with a general comprehension of its theory, and teaching it in a rude, diagrammatic way has passed. Recognition of it as a practical test should be given henceforth only as it takes the form of a method of precision. If one has no tape measure he may estimate length by spanning with his hand or counting paces. If the conditions for accuracy are for the time impossible, one may practice approximate skiascopy. But it should be recognized that this is not all that skiascopy might be.

The first step towards rendering skiascopy a method of precision is the shortening of the distance between the patient and the surgeon. The shadow-test is practiced with a pupil of from four to eight millimeters in diameter. A letter inscribed in a circle of that size would be recognized at a distance of two to four meters in a good light. With the strongest illumination of the pupil the movement of light and shadow can be recognized readily at the same distances. But the strongest illumination is not available for accurate skiascopy. The conditions which give the most brilliant reflex from the pupil differ essentially from those under which the refraction can be exactly measured. As the point of reversal is approached the illumination of the pupil becomes feeble, and for a fair approach to exactness, say within 0.25 diopters, the light of the pupil becomes so feeble that the direction of its movement cannot be recognized at one meter, even when the movement extends over the whole width of a pupil six or eight millimeters in diameter. Skiascopy at one meter cannot be certain. The correctness of measurements made at that distance cannot be relied on. They may be accurate by chance, but they are not accurate with certainty. Moreover in the great majority of eyes, the movement of light and shadow has to be determined, not in the area of the whole pupil, but in an area much smaller, a circle of three to five, instead of six to eight millimeters in diameter. Then in this smaller circle one has to watch the movement in a comparatively dim light area, while around it a larger and more brilliant area is also moving.

The distance between the patient and surgeon must be measured exactly. But if the surgeon goes far enough away from the patient's eye, it makes very little difference whether his source of light be large or small, and he need not measure the distance from the patient at all, but merely guess at it or make a fixed deduction.

The need of measuring the distance between surgeon and patient has already been alluded to. When the distance is so great that a foot added to it will mean but 0.25 diopters difference in the refractive power, such measurements are unnecessary. But when a single inch means more than 0.25 diopters of the refractive power, the need for exactness is obvious.

For working at one-quarter meter the source of light should be 2.5 millimeters in diameter. The reduction in the size of the source of light renders necessary a reduction in the sight-hole, which should be not more than half the diameter of the source of light. The room must be dark. The light must be so thoroughly cut off that no reflection of the surgeon's hand or face can interfere with clear view of pupillary movement. The source of light should be as close as possible to the mirror.

In conclusion, he says: We would indicate by the term exact skiascopy,—

The working at a distance of one-quarter to one-half meter.

The accurate measurement of the distance.

The adaptation of the source of light and the sight-hole to this distance.

Care to bring the source of light close to the conjugate focus of the retina.

Means of fixing exactly the direction of the principal meridians.

Control testing, by departure both ways from the lens' strength, focal distance, or merdian fixed on.

And, in general, precision and exactness in every detail.

LARYNGOLOGY.

BY WILLIS SIDNEY ANDERSON, M. D., DETROIT, MICHIGAN.
ASSISTANT TO THE CHAIR OF LARYNGOLOGY IN THE DETROIT COLLEGE OF MEDICINE.

THE SUBCUTANEOUS INJECTION OF PARAFFIN FOR THE CORRECTION OF DEFORMITIES OF THE NOSE.

F. GREGORY CONNELL (*Journal of the American Medical Association*, September 19 and 26, 1903) in a carefully prepared article, gives the history of the various methods of this procedure, together with the dangers. uses and technic. Among his conclusions he mentions that the method is still in its experimental stage, but that its use is rapidly increasing.

Harmon Smith (*Journal of the American Medical Association*, September 20, 1903) gives an excellent summary of the method and describes a special syringe devised by himself which has proven useful in the hands of a number of physicians.

REPORT OF CASES OF PYOGENIC BRAIN DISEASES, ASSOCIATED WITH OR CAUSED BY ACUTE AND CHRONIC NASAL SUPPURATION.

THOMAS HUBBARD (*The Laryngoscope*, September, 1903) reports five cases. In three of the cases the middle ear and mastoid were involved. In two the sinuses of the nose were involved. The author's comments on the cases are as follows: This group of case reports lack that accuracy of detail which is essential to the scientific study of such an important subject. But one lesson is clear, and it emphasizes what we see every day in the practice of otology. Nasal and accessory sinus disease is very commonly associated with, or the cause of, acute and chronic ear disease, and likewise such disease is not rarely the source of meningeal infection. And yet in serious cases, in which surgical intervention is resorted to, how frequently this cause is overlooked, or at least how rarely reported.

Concerning ozena, as a factor in purulent mastoid disease and meningeal infections, I am convinced that it is a very important matter. Simple mastoid operations can scarcely be expected to do well with such a complication; and certainly in pyogenic brain diseases, supposed to originate from the temporal bone, the possibility of direct meningeal infection, from ulcerated nasal mucous membrane and eroded bones, and accessory empyema, should be carefully considered before attempting surgical procedure by way of the mastoid. The prognosis in all such cases is very bad, and is the important thing to take into consideration in deciding on the advisability of mastoid or more extensive operation. In other words, the nares and accessory sinuses should be studied quite as carefully as the temporal bone, as factors in the prognosis of mastoid diseases and as a medium of intracranial infection.

DERMATOLOGY.

By WILLIAM FLEMING BREAKEY, M. D., Ann Arbor, Michigan.
LECTURER ON DERMATOLOGY AND SYPHILOLOGY IN THE UNIVERSITY OF MICHIGAN.

ENDEMIC AND HEREDITARY SYPHILIS.

The *Journal of Cutaneous Medicine and Syphilis* summarizes Doctor George Ogilvie's review (*British Journal of Dermatology*, 1903, XV, page 11) of Professor von Düring-Pascha's "Report on Endemic and Hereditary Syphilis in Asia Minor," culling some most interesting facts, and giving some decided opinions against the position of the French syphilographers, as also against "Profeta's law." The report covered the examination of about sixty-five thousand people and over thirty thousand cases of syphilis. Among the points worthy of notice are that in these cases specific treatment was practically unknown, the preponderance of accidental over venereal infection, and the frequency of tertiaries.

In Europe the proportion of accidental venereal infection is not over five per cent, while in Asia Minor, according to von Düring, the inverse is nearer the truth, though he could not give exact figures. Among the vehicles of infection were drinking vessels, the "naigle" or water pipe, the razor, and the cigarette. Although acquired syphilis was quite frequent in children, von Düring was not able to detect the primary lesion in an infant or child.

In all previous reports on endemic syphilis the proportion of tertiaries to secondaries is given as about two to one. According to von Düring's opinion one to two would be about the correct proportion. He attributes the errors of former reports to the facts (1) that peasants do not as a rule seek medical advice for secondaries because they do not attach any importance to them; (2) that all people escape registration during the periods of latency; and (3) without the treatment tertiaries persist about twelve times as long as secondaries, consequently the same patient will figure in these statistics for years; (4) in an "extinct focus," that is, where in the course of years all inhabitants are infected—a by no means rare occurrence—only cured people or those suffering from tertiaries, are to be found. As the proportion of tertiaries to secondaries in Europe is about one to ten—estimated—the question arises, What is the reason for this increased frequency? The precocity, gravity and long duration of tertiaries in endemic syphilis are considered to be due to the want of treatment. Destructive processes of the palate, pharynx, and the nose constituted about forty per cent of the tertiaries.

In regard to hereditary syphilis, von Düring has collected more than one hundred cases, in which the children of parents who before marriage suffered from acquired syphilis, contracted fresh syphilis, a complete contradiction of Profeta's law.

With regard to the infectiousness of congenital syphilis, he expresses himself with great reserve. He does not deny it but he states that he had never seen an exception to Colles' law. He likewise has never seen a healthy nurse infected by a congenitally syphilitic child, although he knows of several cases in which apparently healthy women have suckled children—not their own—affected with severe congenital syphilis.

Professor von Düring failed to find the marked dystrophic influences of hereditary syphilis and its degenerating influence upon rational development, which evidently pleases Ogilvie, as he refers extensively to "the present tendency of the French school towards pansyphilism, which seems itself to be a kind of professional neurosis." The logic of this would seem to be that if all the people became infected and immune the disease would die out!

* * *

Doctor George T. Jackson (*Journal of Cutaneous Diseases, including Syphilis,* October, 1903), referring to Doctor Tschlenow's article on "Inherited Immunity to Syphilis and the so-called Profeta's Law" (*Montshft. f. pakl. Dermat.,* 1903, xxxvi, page 489), says the so-called Profeta's law is that children of syphilitic parents, in most cases at least, enjoy for a certain time an immunity against syphilis. This law has many exceptions, especially as far as it concerns the inheritance of the disease from the father. Any immunity that may be acquired from the father would seem to be exhausted in a short time. It would also seem that tertiary or spent syphilis in the parents confers very much less immunity to the children, than does active syphilis, and that any such immunity is rapidly lost. It is nevertheless true that apparently healthy infants born to syphilitic mothers do not in most cases contract the disease from the mother—which seems to be practically equivalent to saying that the degree and duration of the immunization of the child, corresponds very closely to the gravity and activity of the disease in either or both parents, at the time of conception, and of the mother during gestation, and the evidences of disease of the infant at or soon after birth.

NEUROLOGY.

By DAVID INGLIS, M. D., DETROIT, MICHIGAN.
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SEVERE PAIN CAUSED BY BLOOD PRESSURE.

THERE are many cases of intense pain clearly due to temporary increase of arterial pressure, with localized hyperemia. The unbearable headache of intense cerebral congestion, such as occurs at the time of a sunstroke or as a subsequent effect of sunstroke, is an instance in point. A similar congestive headache not unfrequently follows severe blows on the head. Many cases of migraine are of the congestive type; such patients often show visibly swollen, tortuous, temporal arteries. Neuralgias in all parts of the body, including those of the internal viscera, are often either due to, or at least accompanied by, such arterial tension. Every medical man knows how these conditions are particularly apt to occur at or near the menstrual period in woman—a time at which arterial turgescence seems to occur in the most diverse parts of the body. Brain tumors exhibit the singular feature that, while the tumor is always present and slowly growing, the frightful headache is intermittent and recurs in paroxysms. These paroxysms must be due to some cause acting in addition to the mere presence of the tumor. That cause seems to be a changing degree of cerebral congestion. Tumor plus congestion and we have unbearable headaches. The congestion relieved, the pain abates.

Doctor William Browning, of Brooklyn, publishes an excellent article in the *Journal of Nervous and Mental Disease* on "Relief of Pain in Tumors of the Brain." The following extract gives the gist of the article:

One unquestionable advantage of the use, which, as you know, I have so strongly advocated for a number of years, of the vascular agents (whether to increase or depress the blood-pressure), is that they act in an intelligible way and not in some presumed or speculative manner. Their influence can be pretty definitely foretold and its effect controlled; hence the remedy can be fitted to the case. In other words, they are rational remedies and meet the demand for both honesty and exactness in practice.

The method in the present instance is very simple. It consists in the administration of such depressants as aconitia, veratrum or gelsemium in doses sufficient to soften and control the pulse. The amounts required are not far from those which were recommended in the abortive treatment of apoplexy (*New York Medical Journal,* February 15, 1902). The remedy can be continued as required, though the condition of the circulation should be frequently observed and the amount of the drug regulated according to the necessity of the case and the way it is borne. The dosage in any particular case is kept where it does not dangerously reduce the pulse on the one hand, and yet controls the pain on the other.

This plan may not at any and every instant completely stop pain, but it holds it within bearable limits, and may be all that is required even when the course of the trouble extends over many months. It appears to accomplish quite as much as the method of symptomatic trephining, which was proposed for a similar purpose, and to do this without any of the operative drawbacks.

Doubtless the thoroughness with which pain can be controlled in any given case will depend somewhat upon the manner in which it is produced. Clinically we have, besides those relatively fortunate cases without pain, certain types, and we can trace the source of the pain to at least three factors: (1) There is the local and more or less general increase of intracranial pressure, as occurs most typically in intrasubstantial growths. Where the pain is thus directly due to pressure, it is less intense, but may be more continuous, like a deep ache. In this form marked relief may be expected. (2) Then there is the paroxysmal augmentation of arterial pressure in certain cases, to which reference will be made more fully. It is in these attacks doubtless that the terrific pain-seizures occur, and correspondingly this form should be relieved most of all by depressants. It is really here that we most need analgesics, and that opiates fail except to stupefy. (3) But when on the contrary the pain is the result of direct implication or stretching of external structures, as the meninges or outgrowing nerves, and we get instead neuralgias and localized pains, then the good to be realized from depressants may be only proportionate to the degree in which pressure is a factor. And in fact it is supposed that in this last type of cases pain is especially likely to be felt.

It is fair to ask whether this plan has any injurious effect on the course of the trouble itself. Nothing of the sort has been apparent in any case, nor is there any theoretical reason for suspecting harm. So far as one can decide, life has if anything been prolonged. On paralysis, if present, it can hardly have much effect either way.

Browning has in mind the pain of brain tumors, but it is at once evident that the therapeutic application of the idea is a wide one. Congestive neuralgia of the ovaries, often is used as reason for their removal. It would, I suspect, save some useful ovaries if arterial depressants were used more generally. The use of gelsemium or aconitia in trigeminal neuralgia is fairly common, but there are other visceral neuralgias which would seem equally adapted to such treatment.

The trouble is, we are afraid of arterial depressants just as we seem frightened to bleed or give emetics. As a matter of fact the heart will stand a tremendous amount of depression safely, provided it be not too suddenly induced. We all know it, yet we give arterial depressants reluctantly. It is a mistake. Browning's suggestion is an excellent one.

THERAPEUTICS.

By DELOS LEONARD PARKER, PH. B., M. D., DETROIT, MICHIGAN.
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THE INTERNAL ADMINISTRATION OF ADRENALIN FOR CONTROL OF HEMORRHAGE.

DOCTOR HOMER DUPUY (*The Therapeutic Gazette* for October, 1903) says he is desirous of giving his experience with adrenalin, given for the control of hemorrhage, for the reason that everyone should contribute to the profession whatever information he may have gained concerning a drug as important, now and prospectively, as is adrenalin.

In the first place he calls attention to the fact that adrenalin is derived from suprarenal extract, and may be regarded as the active principle of this substance. Adrenalin, he says, is a vasomotor constrictor of the most powerful type. It may be administered by the stomach or hypodermically. The effect is the same whichever mode is chosen. Doctor Dupuy seems to favor the stomach route.

Two cases are reported, in both of which recurring and persistent hemorrhage from the nose was controlled by the administration per orem of twenty-drop doses of a one to one thousand solution of adrenalin. In one of these cases the drug was given every hour for twelve hours, then every two or three hours for two days, then three times a day for a day or two. In the other case it was given in the same form and dose every hour during one night, then at increasing intervals for four days.

Doctor Dupuy says the points claiming attention are:

(1) Large and frequent dosage, twenty drops every hour or two for the first twelve hours.

(2) The absence of any toxic or untoward effect.

(3) The absolute control of hemorrhage.

The doctor reports also most satisfactory results from the use of adrenalin in hemoptysis and other forms of bleeding, such as typhoid intestinal hemorrhages, and those occurring among hemophilia.

As the effect of the drug is due to its constricting action on the blood-vessels, Doctor Dupuy argues that the blood-vessels should be allowed to assume their natural size gradually, if return of the hemorrhage is to be avoided. It is this principle that causes him to discontinue the use of the remedy in a gradual rather than in an abrupt manner.

EDITORIAL COMMENT.

DICTION AMONG DOCTORS

THE selection of precise and polished language for the expression of thought is apparently regarded of little consequence by many physicians. This declaration will undoubtedly enjoy the concurrence of discriminating medical journalists who have occupied the editorial tripod for even an inconsiderable period. The faulty diction is infinitely more deplorable because of the fact that a great majority of doctors are proficient in the art of rhetoric but seem content to blindly pursue the trail of colloquial style. The practice undoubtedly became vogue through carelessness which had its inception in medical society impromptu discussion, a cant word or phrase being employed by the speaker because of inability to command the proper one when siezed with the temptation to score a point quickly, and hence a crosscut through awkward English instead of pursuing the circuitous route required to couch the sentence in exact terms. A perusal of medical periodic literature reveals many glaring inaccuracies and inelegancies of expression. Author and editor are equally responsible for the syntactic discrepancies, and when the writer displays negligence in the preparation of a paper the editor should evince sufficient interest in faultless phraseology and the reputation of the journal over which he presides to rectify improper words or ambiguous sentences. The citation of a few examples will serve to elucidate the subject under consideration.

* * *

"In the first place" is a bugbear which is often more conveniently than consistently employed. The phrase is utilized to introduce a proposition but is scarcely ever followed by its natural sequent; in other words, the entire article is made subordinate to the initial phrase, which is often forced to cover half a dozen distinct propositions. Another abused introductory is the adverbial "first" or "firstly." Either word is often brought into requisition when a number of facts are cited to substantiate an argument, but here, again, the natural sequent is frequently overlooked, and succeeding sentences appear without a numeral antecedent. An article on electrocution contains the expression that consciousness was "blotted out instantly," but the author fails to state how consciousness, or anything else for that matter, can be "blotted out." A proper regard for the sensibilities of the reader might possibly have suggested the expression that consciousness was *obliterated.* One writer "keeps the patients in bed," but inasmuch as he refrains from enlightening the reader as to the amount of energy expended in performing the task upon the average patient the light-weight doctor will be somewhat loath to exercise power other than to *request* or *require* the patient to remain in bed. A dispenser of medicolegal lore informs the reader that the United States Supreme Court "handed down a decision." This statement is calculated to invest some with the idea that "the most learned judicial tribunal in the world" is dealing in shelf goods, although the author probably intended to convey the information that the Court simply *rendered* a decision. One physician declared that the "lungs were all right," another that the "kidneys were all right," but a scientific examination would probably reveal the fact that in both instances the organs were *normal.* An operator who spent much time delving in a mass of pelvic adhesions for the womb, writes that "the uterus could not be made out," whereas if ordinary tact had been exercised he might have *distinguished* the organ with comparative ease. Another writer who has probably been dabbling in the stock market announces that "respiration went down," whereas polite parlance would inform the reader that respiration *decreased.* An advanced therapist writes that certain hydriatic treatments should be "carried out," but unfortunately fails to disclose the technique of the new-fangled method, and under the circumstances the progressive doctor will regret that he can only *pursue* such treatment as heretofore.

* * *

"The title of my paper forms, I think, the most common complaint among those patients who consult us for throat trouble," is the introductory sentence of a contribution to an esteemed contemporary, but little credence will be reposed in the statement that the "title" forms the "complaint." Possibly the author means that the title constitutes the *name* of the most common complaint. One writer who is offering testimony to defend a premise concludes by saying that when the proof is "sifted down" the evidence will be apparent. Inasmuch as one rarely hears of anything being sifted up, it would seem that brevity of language would be better subserved by simply employing *sifted.* Another exhibits a mania for employing the personal pronoun you, and in discussing a subject almost invariably begins by saying "You have a case," although as much heed in the selection of words as is observed in the selection of drugs would probably have suggested to the author that it is *a physician* who has a case. One hustling country doctor insists that "a physician's armamentarium should be up-to-date," while another entertains the reader with "a classification of certain cases that have been treated down to the present time," notwithstanding a happy mean that would doubtless suffice to all intents and purposes might find expression in the words *to date.* A close observer says that in consequence of certain treatment his patient "is putting on flesh," but whether this feat is being performed by skingrafting or otherwise is not specified, and possibly a more thorough knowledge of the case would demonstrate that the patient is only naturally *acquiring* flesh. An investigator says that "our views on the pathogenesis of cholelithiasis have 'become' radically revised during the past few years," but some might question such a change without the aid of human volition. In concluding a paper the author says "that death took place instantaneously is not doubted," although he fails to adduce evidence in support of the declaration. The shortsightedness of this writer will invest some with the impression that death simply *occurred.* A neurologist conveys the information that "in paretic dementia 'we have' demonstrable brain lesions," whereas elegance of diction would be greatly improved by saying *there are* such changes. One doctor writes that "a patient comes to you," when in reality a *person* seeks medical service and thereby becomes a patient. A common blunder is that made by the writer who positively declared that "the case died," when everybody else interested knows that it was the *patient* who succumbed.

* * *

"The whole business" is the manner in which an enthusiastic writer refers to a certain system of therapeutics. A dermatologist announces that he "has almost done away with skin infection" by a certain procedure, although the drift of the sentence would indicate that the innovation had *precluded* skin infection. Another says that "the early symptoms of the disease have been carefully worked out," which, however, merely implies that they have been *studied.* An anxious doctor greatly exerted himself to "keep up the elimination," although it would have been much easier to *continue* the process. An abdominal surgeon declares that "an eminent operator 'draws' comparison between the gall-bladder and appendix," notwithstanding the inference is obvious that the doctor merely desired to indicate the *analogy* existing between the two organs. A man who expects to procure something for nothing talks about "finding a serum," instead of *developing* one. An economical author says "in order not to 'take up' too much time I will only speak of some of the more interesting phases of the most conspicuous diseases." Why not obviate the necessity of 'taking up' time by simply *consuming* it. The doctor seems to be always confronted with a heap of "trouble." His patients have stomach trouble, heart trouble, and liver trouble. Every trifling ailment is designated trouble, the doctor seemingly forgetting that there are other words that would convey a more literal meaning of the condition obtaining. As an instance, one writer says that "nonabsorbable sutures may 'give' trouble," but whether it will manifest itself in mental anguish or physical fracus is not stated. "Farther" and "further" are often employed interchangeably, notwithstanding the fact that better usage has long since decreed that the former shall apply to *distance* and the latter to *degree.* The climax was capped, however, when "numerous reasons" was employed where *many reasons* was indicated. And again, "The popularity of the manual can be attested 'for' by its 'numerous editors'." A society or army may be numerous, but reasons or editors never!

* * *

The foregoing defects are not recounted in a spirit of criticism, for we are mindful of the admonition that people who live in glass houses should not throw stones. Some of the imperfections were found in the leading medical journals of the country, and afford evidence of the fact that few publications are models of accuracy and elegance of diction. The reason for this is obvious. Papers are usually prepared hurriedly, and authors who are inclined to employ similar phraseology in *writing* and *speaking* are almost certain to manifest linguistic shortcomings, for few people speak correctly and elegantly always. Various other blemishes in construction not alluded to are apparent in medical journals, chief among which is the tendency to shirk the proper amplification of sentences. This baneful practice is not attributable so much to oversight as to unconscious investion with the spirit of the age, which, feigning to exemplify brevity as the soul of wit, is abridging esthetic language to the jargon of slang.

CONTEMPORARY.

FILTERED LANGUAGE.

[GEORGE MOORE, IN LIPPINCOTT'S.]

Why is it that England has failed to produce a first-class work of fiction? It is refreshing to ask these questions, they lead into pleasant meads of meditation, and this is not the first time I have mused in these meads. I remember trying once before to answer this question, and I pointed out that the tragedies of Shakespeare were every one the development of a moral idea, that "Hamlet" was but the tragedy of doubt, that "Macbeth" was the tragedy of ambition, that "Lear" was the tragedy of parental altruism. "A nation," I said, "is interested in moral ideas in its infancy. As a nation grows it becomes interested in discriminating between the different classes, the grocer and the baronet, the Methodist and the Unitarian; if the author is an American, between Americans who go to Paris and Americans who stay at home. As a nation grows old its language becomes polluted. In the beginning language is like a well head from which all may draw pure water. The well passes into a rivulet, the rivulet flows into a river, the river passes through the town, and henceforth the water must be passed through a filter. Style is the filter that a language that has been much written in must be passed through. Milton was the first stylist."

MEDICAL NEWS.

THE ENNO SANDER PRIZE.

"THE Relation of the Medical Department to the Health of Armies" is the subject of the competition for 1904. A gold medal, of the value of one hundred dollars, will be awarded to the essayist securing first place, and a life membership in the Association of Military Surgeons of the United States, of the value of fifty dollars, will be awarded to the essayist securing second place. Following are the conditions of the competition:

(1) Competition is open to all persons eligible to Active or Associate Membership in the Association of Military Surgeons of the United States.

(2) The prize will be awarded upon the recommendation of a Board of Award selected by the Executive Committee. The Board will determine upon the essay to which the prize shall be awarded, and will also recommend such of the other papers submitted, as it may see fit for honorable mention, the author of the first of which shall receive a life membership in the Association.

(3) In fixing the precedence of the essays submitted, the Board will take into consideration—primarily—originality, comprehensiveness and the practicability and utility of the opinions advanced, and—secondarily—literary character.

(4) Essays will consist of not less than ten thousand, nor more than twelve thousand words, exclusive of tables.

(5) Each competitor will send three typewritten copies of his essay in a sealed envelope to the Secretary of the Association, so as to reach that officer *at least one month before the next ensuing annual meeting,* in the present case on or before September 10, 1904.

(6) The essay shall contain nothing to indicate the identity of the author. Each one, however, will be authenticated by a nom de plume, a copy of which shall, at the same time as the essay, be transmitted to the Secretary in a sealed envelope together with the author's name, rank and address.

(7) The envelope containing the name of the successful competitor will be publicly opened at the next succeeding annual meeting of the Association, and the prize thereupon awarded.

(8) The successful essay becomes the property of the Association of Military Surgeons of the United States, and will appear in its publications.

The Secretary is Doctor James Evelyn Pilcher, Carlisle, Pennsylvania.

MINOR INTELLIGENCE.

MRS. MARY LEWIS, who recently died at New York, bequeathed three thousand dollars to Christ Hospital and two thousand to Saint Catherine's Home, both of Jersey City.

AN epidemic of yellow fever has appeared at Laredo, Texas. Thirty-seven cases have already been reported and sixteen of these have been pronounced genuine by attending physicians.

THE corner stone of the new King Edward's Sanatorium for the treatment of tuberculosis has been laid at Lord's Common, Sussex, England. The erection of the hospital is facilitated by a gift of $1,000,000 from Sir Edward Cassel.

THE use of tobacco and intoxicating liquors by employes is being discouraged by many railroad corporations throughout the country. The officers assert that men who are addicted to smoking and drinking are not safe to entrust with the lives of passengers.

THE American Congress of Tuberculosis will convene in Washington, District of Columbia, on April 4, 5 and 6, 1905. Doctor Alfred Meyer, of New York City, has been appointed Chairman of the Committee in charge of the Section on the Sanitarium Treatment of Consumption.

THE General Naval Hospital, located at Portsmouth, Virginia, will be enlarged, in accordance with the request of Surgeon-General Rixey The present institution affords capacity for two hundred beds, and it is proposed to increase the facilities so that five hundred patients may be accommodated.

A LARGE sanatorium is to be established, outside the walls of Rome, for the treatment of consumption. Signor Pietro Cartoni recently offered one million lire for the erection of the building, and has further signified his intention to bequeath his entire possessions to aid in the study of the disease. The signor has lost two children from the great white plague.

MORE than five hundred persons were killed by cars and street vehicles in New York City last year, while in the metropolitan district of London, which occupies more than six hundred eighty-eight miles, only one hundred fifty-eight met death through these agencies.

THE Supreme Court of New Hampshire recently ruled in favor of a Christian science operator, and thus established the legality of the practice of the cult in that state. This is probably the first instance in which an Eddyite has been upheld by the highest court in a state.

ON September 20 a monument was unveiled, at La Malou-les Bains, in honor of Charcot, the famous French physician, much pomp and ceremony characterizing the occasion. The ceremonies were conducted by the Ministers of Commerce and of Public Instruction.

THE Duke of Devonshire has appointed a committee to investigate the alleged deterioration in physique of certain classes of English people. Much discussion has occurred for long concerning this question, but no effort to verify the truthfulness of the allegation has been made until now.

AN advance in medical education is contemplated by the University of Maryland, which proposes to establish a chair of Medical History. This subject has been grossly neglected in the past and it is to be hoped that medical colleges throughout the country will follow the initiative taken by Maryland University.

THE free river baths, which have been allowed in New York City, will probably be abolished on the ground that a certain amount of infectious disease is contracted by bathers. The president of the Board of Health has advocated the discontinuance of the system heretofore in vogue, and the substitution of shower and plunge baths.

THE Pennsylvania Society for the Prevention of Tuberculosis has inaugurated a novel method to aid in the suppression of that malady. Signs will be posted on bill boards and street poles, admonishing the public to guard against contagion, and the newspapers will be asked to publish occasionally short articles bearing upon the disease.

FIVE thousand dollars is the valuation placed on the stomach of a Milwaukee woman. A physician of that city performed gastrectomy on the patient and now the son has charged the operator with stealing the gastric reservoir and instituted proceedings to obtain compensation, notwithstanding the fact that the woman soon recovered from the effects of the operation.

THE sixtieth annual meeting of the American Medico-Psychological Association will be held at the Planters' Hotel, St. Louis, Missouri, Monday, May 30, 1904, to Friday, June 3, 1904, inclusive. The local Committee, to whom was referred the matter of date and place of meeting, recommends a five days' session, mornings only. The Secretary, Doctor C. B. Burr, of Flint, Michigan, will be indebted for the promise of papers.

Two hundred fifty school teachers in Indiana have been dismissed because of the fact that they are tuberculous. The State Board of Health lately issued an order prohibiting consumptives from holding positions in the schools, a commendable move that should be followed by other states.

THE Board of Health of Boston proposes to strictly enforce the act which requires that alleys and private passageways be paved at the owners expense in order to render them sanitary. Several alleyways have already been condemned as public nuisances and orders have been issued to have them properly paved.

THE present season has been the scene of especial disaster on the Alps. More than three hundred accidents have occurred and the lives of over one hundred fifty mountain climbers have been sacrificed. The victims are numbered chiefly among the Germans and Austrians, who recklessly ascend the peaks without the aid of guides.

THE eyes of the employes of the Boston and Albany Railroad Company have recently been examined, with the result that many of the older men have received their dismissal from service. This may seem unjust to some, but it is nevertheless a timely precaution, considering the number of lives entrusted annually to railroad workmen.

TWENTY-SEVEN thousand six hundred fifteen students were enrolled in our medical colleges during the year 1903. Twenty-four thousand nine hundred thirty of these affiliated with the regular schools; one thousand four hundred ninety-eight the homeopathic; eight hundred forty-eight the eclectic; and three hundred thirty-nine the physio-medical and other schools.

THE corner stone of the new Saint Joseph's Hospital, which will be in charge of the Little Sisters of the Order of Saint Dominic, was recently laid at Jamaica, Borough of Queens, New York. This modern structure, which will contain three hundred beds, was designed to supplant the old building, which had become entirely inadequate for the growing needs of the institution.

A REMARKABLE case is reported from the Eastern District Hospital of Brooklyn. A man aged thirty-four, who is alleged to have been deaf and dumb from birth, was found unconscious in a private room. After being in this condition for many hours he regained consciousness and began to talk, stating that he had inhaled the fumes of potassium cyanide, which was responsible for his unconsciousness.

MARSEILLES is suffering from an outbreak of bubonic plague. The disease first appeared in a cardboard factory, located in a suburb of the city. A number of bales of rags were imported from Smyrna, and concealed in the bales were the bodies of several dead rats. The persons who handled the rags were the first to become infected. Already five deaths have occurred and twenty-nine cases of the malady have been reported.

A TEMPERANCE hospital is to be erected in Chicago at a cost of sixty-five thousand dollars. The physicians who constitute the staff of the new institution will not be permitted to prescribe alcohol in treatment. The hospital will be known as the Frances E. Willard National Temperance Hospital, and three schools of practice—regular, eclectic, and homeopathic—will be represented on the medical staff.

A FRENCH physician, Doctor Maréchal, of Paris, is endeavoring to have a law passed making the wearing of corsets by women under thirty a penal offense. Besides the deleterious effect which the practice has upon the system, accidents from the encasement are frequently recorded. It is reported that a Buffalo woman recently died from penetration of the heart by a corset steel, and another woman is said to have received a serious *x*-ray burn from wearing a corset during treatment.

TWENTY school buildings in the Boroughs of Manhattan and Brooklyn have been designated by the Board of Education of New York City, as centers of recreation for working children. The buildings will be provided with reading rooms, and the formation of literary and debating societies will be encouraged. In addition, systematic training in gymnastics may be obtained, and applicants desiring instruction to enable them to pass the civil service examinations will be accommodated.

DOCTOR HUBBARD N. MITCHELL, of New York, sustained an injury in a Jersey City street railway accident last year, and instituted legal proceedings to recover damages for resulting deafness. The doctor was riding in a car which suffered derailment, and he was thrown from his seat, falling toward the opposite side of the car and striking his head against the seat across the aisle. He claimed that deafness of his left ear, which had been specially trained for auscultatory purposes, followed, and that in consequence his practice, which was previously worth thirty thousand dollars a year, had been interfered with to serious extent. An award of seven hundred dollars was allowed.

THE thirtieth annual meeting of the Mississippi Valley Medical Association will be held at Cincinnati, October 11, 12 and 13, 1904. Doctor B. Merrill Ricketts is Chairman of the Committee of Arrangements. The following officers were elected at the recent Memphis meeting: President, Edwin Walker, M. D., Evansville, Indiana; president-elect, Hugh T. Patrick, M. D., Chicago: first vicepresident, Bransford Lewis, M. D., Saint Louis; second vicepresident, George W. Cale, M. D., Springfield, Missouri; secretary, Henry Enos Tuley, M. D., Louisville; assistant secretary, S. C. Stanton, M D., Chicago; treasurer, Thomas H. Samuel Stucky, M. D., Louisville. Doctor S. P. Collings, of Hot Springs, Arkansas, offered the following resolution: *Whereas,* the value of perfect sight and hearing is not fully apprecited by educators, and neglect of the delicate organs of vision and hearing often leads to disease of these structures, therefore, be it *Resolved,* that it is the sense of the Mississippi Valley Medical Association that measures be taken by the boards of health, boards of education and school authorities, and where possible, legislation secured, looking to the examination of the eyes of all school children, that disease in its incipiency may be discovered and corrected.

THE memory of Virchow will be perpetuated by a life-size statue which German physicians propose to erect in one of the leading thoroughfares of Berlin. A committee has been named and contributions are being received. Work will be commenced upon the memorial as soon as sufficient subscriptions are received to insure its completion.

THE German Empire expended about $625,000,000 on alcoholic liquors during 1892, an average of thirty-five dollars per head for all persons over fifteen years of age. These figures are taken from statistics of the imperial health office, a pamphlet having been issued therefrom in which the announcement is made that while total abstinence is not advocated the practice is not disadvantageous to health and certainly does not impair working ability.

ONE of the most complete hospital cars in the country is in the service of the Galveston, Harrisburg and San Antonio Railroad Company. The car has three apartments—an operating room, a parlor, and a kitchen. The operating room occupies the greater part of the space, and is furnished with an operating table and two combination cots and stretchers. Six more of the latter are stored in a compartment under the car. In the event of a wreck it is possible to carry the injured to and from the operating table without a change of cot, as these are adjustable to the table. The necessary instruments for performing ordinary operations complete the equipage of the apartment. The parlor has two berths and a sofa, with ample room to accommodate two cots in an emergency.

A WRONG doctrine advocated by a Wright (?) divine at the recent banquet of the New York State Medical Association is that of euthanasia. The speaker, Reverend Merl Saint Clair Wright, of the Lenox Avenue Unitarian Church, among other things said: "I appreciate the practical difficulties in the way of the practical application of the doctrine, but it seems to me that it is not beyond the bounds of possibility. Of course it would be necessary to have the advice and approval of men of the highest scientific attainment. The city might be divided into districts, and every application should be considered most carefully, not merely by physicians, but by some eminent clergymen selected for the purpose. And, of course, there should be the consent of relatives and the consent, even the request, of the patient himself. But where all these conditions are fulfilled, and where the prolongation of life is simply the prolongation of hopeless agony, it seems to me that it would be proper that such a patient should quietly, decently, modestly, be allowed to end the sufferings. It seems to me that such a course would be a step forward in civilization and a step further away from barbarism."

THE Navy Medical School began its second session October 1, with a class of about twenty-six, which was augmented by students who were pronounced qualified by the examiners during September, and were permitted to enter school pending the receipt of commissions. No change has been made in the faculty of the school except that Surgeon A. C. H. Russell was succeeded by Surgeon Charles F. Stokes, in the department of military surgery, the former surgeon having been ordered to the South Atlantic squadron.

A NEW YORK dentist, Doctor M. Wagschal, has instituted proceedings against Prince Zille Sultan, a brother of Persia's shah, to recover two thousand four hundred dollars which he alleges is due him for professional services. While visiting Persia some time ago the doctor was summoned to operate on the mouth of the prince, and so much pleased was the royal personage that he made a contract with the doctor whereby he was to hold himself subject to the prince's call, being permitted, however, to engage in practice so long as it did not interfere with the observance of the contract. After the assassination of the shah Doctor Wagschal was obliged to leave Persia, but at all times kept the prince informed as to his whereabouts. Notwithstanding the doctor's readiness to answer a summons his salary has not been forthcoming for some time past.

RECENT LITERATURE.

REVIEWS.

THE JOHNS HOPKINS HOSPITAL REPORTS.*

THIS volume is given up chiefly to one article, really a monograph, on "Pneumothorax: A Historical and Experimental Study," by Charles P. Emerson. In this the author has, with infinite patience, examined the entire literature and given abstracts of the most important writings, not less than three hundred fifty-seven authors being cited in the historical introduction. Equally complete is the study of Etiology and Pathology, while the chapter on the Mechanics of Pneumothorax, including the Physical Signs, is discussed in a masterly way. The course, symptoms, prognosis, diagnosis and treatment do not receive such full consideration, but many of the topics are discussed in other chapters, and the large number of original cases cited at length from the records of the Johns Hopkins Hospital furnish in themselves practical lessons of the greatest value. Following this is an excellent article by Henry Wireman Cook and John Bradford Briggs on "Clinical Observations on Blood Pressure," particularly timely on account of the authors' extensive work in this new and interesting field.

The volume closes with a short but practical article on the "Value of Tuberculin in Surgical Diagnosis," by Martin B. Tinker, based upon the results of injections in four hundred cases. Like all who use tuberculin for themselves, he concludes that the evidence "is entirely favorable to tuberculin both as regards its harmlessness and its reliability as a diagnostic agent."

The volume is printed in the careful manner characteristic of the works of the Johns Hopkins Press. G. D.

*Volume XI. Baltimore: The Johns Hopkins Press, 1903.

A SURGICAL HANDBOOK.*

THIS little book was first published in 1889 and since that time has passed through eleven editions. It has been changed from time to time to meet the requirements of modern surgery and now has twenty-seven chapters with an appendix. The book is concise and well written, containing much valuable information in a small space. It deals largely with minor surgery, surgical operations, fractures and surgical treatment. It is a handy volume to carry in the pocket and study at odd moments. C. G. D.

*By Caird and Cathcart, of Edinburgh. For sale by W. T. Keener & Company, Chicago.

PRACTICAL MEDICINE SERIES.

VOLUME VI, subject "General Medicine," appeared in May, 1903. Like its predecessors it is of great interest and value to the general practitioner, not only in keeping to date, but as a book of reference, if he desires to look up the best of the latest articles on any particular medical subject. The abstracts are concise, but sufficiently full for practical purposes. About forty pages are devoted to typhoid and paratyphoid fevers. No new facts, however, are mentioned. Many interesting articles on diseases of the stomach and intestines are presented. Diseases of the pancreas are considered briefly, those of the liver in greater detail. The increase of space devoted to therapeutics will prove very acceptable to the majority of readers. J. R. A.

THE MEDICAL NEWS VISITING LIST.*

THE list for 1904 contains a scheme of dentition; tables of weights and measures, and comparative scales; instructions for examining the urine; table of eruptive fevers; incompatables, poisons and antidotes; directions for carrying on artificial respiration; dose tables; table of diseases and their remedies; directions for the ligation of arteries, and information on other subjects pertaining to the practice of medicine. The body of the book presents pages adopted to the different records kept by physicians, such as daily accounts, obstetric and other engagements, cash receipts, et cetera. In one edition the group of pages devoted to each of these records is made readily accessible by means of a thumb-letter index.

The book is strongly bound and is issued in four styles: Weekly and perpetual for thirty patients per week; monthly for one hundred twenty patients per month; and undated for sixty patients weekly per year. Each style is bound in one wallet-shaped book with a pencil and rubber, and calender for two years. Price $1.25. Thumb-letter index, twenty-five cents extra. A careful examination reveals a book particularly well adapted to the needs of the busy and yet methodical physician. D. L. P.

*Lea Brothers & Company, Philadelphia and New York.

A COMPEND OF DISEASES OF THE SKIN.*

THIS is a better compend than most books of its kind. While such a work is not to be recommended as a substitute for more complete text-books for the use of students or practitioners, yet when limited to its place of ready reference it may serve a useful purpose. A comprehensive classification of diseases of the skin is given. The present edition shows thorough revision, and the text matter on pathology, etiology, diagnosis and treatment is as fully considered as is practicable with conciseness and limited space, and is exceptionally trustworthy. The illustrations are good, and the publishers have presented a very attractive compend. W. F. B.

*By J. F. Schamberg, A. B., M. D. Third edition, published by P. Blakiston's Sons & Company, Philadelphia.

PRACTICAL MEDICINE SERIES.

IN the volume of this series published in July of the present year, Doctors George F. Butler and George S. Browning contribute an article on "Materia Medica and Therapeutics," Doctor Henry B. Favill, an article on "Preventive Medicine," Doctor Norman Bridge one on "Climatology," Doctor Daniel R. Brower one on "Suggestive Therapeutics," and Doctor Harold N. Moyer one on "Forensic Medicine."

This volume is one of a series of ten. The publishers wish it understood that the whole series is arranged with special reference to the needs of the general practitioner.

The volume before us is a well-printed, well-bound book of three hundred twenty-six pages, and contains matter that seems to show that the desires of the publishers, expressed above, have been carried out. Year books in general, while best adapted to the needs of the busy general practician are yet of value to all medical men. For not only do they give information on a multitude of subjects, but they also serve as sort of balance sheets which let one know where gains in knowledge have been made and where not. Judged by this standard of value, Volume VIII, of the Practical Medicine Series, is a pronounced success.

D. L. P.

*Edited by Gustavus P. Head, M. D. Volume VIII. The Year Book Publishers, Chicago.

The Physician and Surgeon

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ORIGINAL ARTICLES.

MEMOIRS.

THE ETIOLOGY AND TREATMENT OF HEADACHES.*

BY HENRY R. NILES, M. D., FLINT, MICHIGAN.
ASSISTANT PHYSICIAN IN OAK GROVE HOSPITAL.

In considering the subject of headaches we have to deal not with a definite disease process but with an important symptom of a great many diseases. It is a symptom, too, concerning which we are comparatively ignorant. We know but little of the exact seat of the pain, of the mechanism of its production, or as to the immediate exciting cause. In a general way, however, we know that the seat of the pain may be in the scalp, in the bone or the pericranium, in the membranes, or in the brain itself; that the pain may result from a disturbance of the cerebral circulation, a perverted condition of the blood, reflex irritation or pressure on the brain by inflammatory exudate or tumor.

Headache occurs during the years of greatest mental activity—early childhood and old age being comparatively exempt. It is a symptom more commonly complained of than any other in medicine and is a condition deserving our most careful attention, if only on account of the immense amount of suffering which it occasions and of the ever-increasing number of its victims in these days of luxurious living, extreme activity, and higher education. It varies in degree from a mere sense of discomfort to pain of such intensity as to completely prostrate its victim and make his life intolerable. The sufferer rightly demands relief, is anxious to know the significance of the attacks, and the physician does scant justice to his patient if he fails to study the case, considering every possible etiological factor with a view to reaching a correct diagnosis.

In the etiology of headache we have to do with a long chain of causes, a great variety of morbid processes, important among which is a hereditary predisposition. Particularly is this true in headache of the neurasthenic and degenerative types. If the family history is carefully elicited the hereditary predisposition will be found to be almost a constant etiological factor. One or both parents, more often the mother, will have been the victim of headache of the chronic type. We are endowed with widely varying degrees of nervous stability and susceptibility and an autointoxication, an anemia, or an eyestrain that would have no appreciable effect upon one person might produce serious headache or other nervous disturbance in one with an inborn tendency to neural instability. Our present methods of living entail an increased mental strain; the high nervous tension which is the accompaniment of modern business methods, the emotional stress caused by sudden and great reverses of fortune, the profound impressions induced by fanatical doctrines which are endemic throughout the length and breadth of our land, the lurid daily newspaper, vicious school methods, irregular living and overindulgence in eating and drinking, all tend toward the development of nervous exhaustion, autointoxications, arterial degenerations and neurasthenic states of which headache is an almost constant accompaniment.

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*Read before the Northern Tri-State Medical Association at the Elkhart (Indiana) meeting.

A correct etiological diagnosis of headache depends upon a searching examination of every system in the body. More often at fault than any other perhaps is the alimentary tract. Gastric indigestion by reflex irritation of the pneumogastric may be the cause, but more likely the absorption of toxic substances developed as the result of intestinal indigestion and constipation may be held responsible. And here individual susceptibility is an important factor. In one the eliminatory functions of the lower bowel may be in almost complete abeyance for days at a time without complaint of headache or appreciable departure from normal health, while in the highly susceptible person, the lapse of twenty-four hours without an evacuation of the bowel may precipitate an attack of migraine or cephalalgia. Impaired renal function may be the cause of two types of headache, the congestive through disturbance of the cerebral circulation from cirrhotic kidney with the accompanying arteriosclerosis, cardiac hypertrophy and increased arterial tension, or the uremic by retention in the circulation of the products of tissue waste which act directly upon the end organs of the sensory nerves within the cranium. In similar manner rheumatism, gout, diabetes, and other diseases as well as various toxic substances from exogenous sources such as tobacco, alcohol, tea and drugs are not uncommon causes of headache.

By far the most important of the diseases of which headache is a symptom (because of its frequent occurrence) is neurasthenia. A very large majority of intractable headaches demanding treatment, are attributable to this disease, about the only exceptions being brain tumor and cerebral syphilis. The pain is usually localized, either vertical, or occipital, or in many cases may not amount to actual pain but is described as a sense of constriction, fullness or weight. Some degree of pain or discomfort in the head is present much of the time. Indeed the constancy of the pain is one of its characteristics.

Patients suffer from the pain not because of its intensity but because of its persistence. Exacerbations occur with fatigue, mental exertion or prolonged use of the eyes, and with the general improvement of neural tone which usually takes place in these patients during the afternoon and evening, the head pains subside. Headache occurs in some cases of early syphilis as a manifestation of the general infection and of late syphilis as a symptom of gummata, meningitis, inflammation of the pericranium, and arterial changes. The constant, wearing, distressing character of these pains with their nocturnal exacerbations are familiar to all. Intracranial growths give rise to headache of the greatest intensity and persistency. The character and location of the pain are considered by some as of considerable value in determining the seat of disease, but to the majority it has been of no material assistance in headache unassociated with other symptoms of localizing value. In brain tumor and other organic diseases of the cranial contents how frequently postmortem findings alter our preconceived ideas of location based on such subjective symptoms as headache. Tumors of the cerebellum may cause intense frontal headaches and the pain caused by a growth in one hemisphere may be felt on the opposite side.

Headache is a prominent and distressing symptom in all forms of cerebral meningitis and is usually continuous with exacerbations of intense severity accompanied with photophobia. In the acute infectious fevers it is one of the earliest symptoms and may reach such a degree of intensity as to obscure the diagnosis or suggest meningitis. It frequently sounds the first warning in some of the grave mental affections. Melancholia may be preceded for weeks by a dull heavy headache and in the early stages of paresis and during the course of the toxic insanities it is often a troublesome symptom. Cerebral congestion by increasing intracranial pressure, the anemias by interfering with the nutrition of the sensory fibres and arteriosclerosis not infrequently find their chief expression in various types of head pain. Intense mental application and emotional strain are also important factors in determining the etiology.

Headaches that are grouped under the caption of reflex headaches form an important class. These headaches are symptoms of morbid conditions in remote parts of the body and may be distressing and urgent while the immediate symptoms of the local disease may be insignificant or altogether absent. Under these conditions the diagnosis of the cause becomes an exceedingly difficult matter and calls for the most painstaking application of the various methods of clinical investigation and very often the assistance of our confreres who have made special study of the different departments of medicine. Disturbances of the functions of the eye, while a fruitful source of headache are perhaps burdened with an unfair share of the responsibility for head pains of reflex origin. That many cases of headache are caused by defective vision may be accepted without question, but it has occurred to me in reviewing the literature relative to this subject that the frequency of the condition as seen by the zealous ophthalmologist may be accounted for by the detection of a mental strabismus or diplopia in the selfsame specialist. However, no liberal-minded general practitioner or neurologist would continue to treat a case of persistent headache without having careful examination of the eyes made. The character of headache due to eyestrain is by no means always the same, nor does the same ocular defect produce a headache similar in locality or character in different individuals. Patients frequently disclaim that the headaches are aggravated by use of the eyes. They have perfect vision, no pain in the eyes they say, and are loth to believe that it is necessary to consult an oculist. Doctor W. A. Bailey reports that it is common to find that the slight degrees of eye defect are associated most frequently with persistent, long-standing headache for the reason, he believes, that the high degrees go early to the oculist without consulting the physician while those with the low degree keep up the unconscious strain necessary to secure perfect binocular vision until the defect becomes manifest in a reflex headache with its associated nervous symptoms. The pain in these conditions is in reality an exhaustion caused by a constant strain being put upon some of the muscles of the eye to overcome some defect in the refractive media or to counterbalance improperly innervated musculature. The pain is usually limited to the forehead or to a circumscribed area in the occiput, is made worse by close application and is relieved by rest or anything that temporarily paralyzes accommodation. Have the eyes investigated by an oculist in all obscure cases of headache, for no examination is complete without it. It is of no significance that the patient makes no complaint of pain in the eyes or difficulty in seeing.

The next most common cause of reflex headache is irritation of the pelvic organs. The headache so often accompanying or shortly preceding the appearance of the menstrual function in those suffering from dysmenorrhea is in my mind a good example of the purely reflex headache. As soon as the flow is established and the irritation of the uterine nerves subsides, the headache ceases and if the causes of the dysmenorrhea are removed, it does not return. Headache occurring in patients with uterine or ovarian disease must not, however, be invariably looked upon as of reflex origin. It may merely be the expression of a nerasthenia which is so frequently associated with intrapelvic disease in women. Other causes are operative and must receive attention as well as the local lesion.

Nasal lesions less frequently give rise to headache. The extension of a rhinitis to the frontal sinuses or ethmoid cells may be the cause of severe frontal pain and the presence of congested and hypertrophied turbinates, adenoid growths or deformities of the nasal walls may contribute to the etiology of headache by irritation of the branches of the trigeminal nerve. Doctor Brown, of Milwaukee, in a recent article lays stress on dental irritation and what he terms "jaw-strain" as a frequent cause of headache.

Hedache may be the expression of pain habit due at first to some of the etiological factors above mentioned but continuing after the removal of the cause as the manifestation of a degenerative neurosis comparable to migraine and epilepsy.

Time forbids that we should go further into the etiology of headache. In turning to the treatment, we are confronted with conditions as varied and illy defined as in the etiology. What remedy has not at some time by some one been recommended for the relief of headache. As a matter of fact, however, there are but few that have stood the test of time and these can be divided into two classes. Those for the relief of the immediate attack and those of value in the correction of the constitutional state which gives rise to the headache. The determination of every factor at work in the case and the correct interpretation of these facts will be our principal guide in the adoption of therapeutic measures. First of all in those cases characterized by toxemic states and nervous exhaustion, the mode of life must be regulated and the nervous and general health of the patient maintained at the highest possible level. Two remedies, always at hand and too little appreciated are fresh air and sunshine. What percentage of headaches might be relieved or prevented by a liberal indulgence in these remedies. Ten to thirty minutes daily of systematic deep breathing, is as essential to the neurasthenic, overworked, individual as his morning bath or dinner. It expands every air vesicle, makes available every square inch of oxygenating surface, thereby facilitating nutrition and elimination and the contractions of the diaphram and abdominal muscles, subjects the liver and other abdominal organs, as it were, to an internal massage. The pressure promotes the venous circulation, activates the intestines, thereby overcoming constipation. Sunshine is a wonderful aid to the normal development of red blood corpuscles and stimulates every bodily function. It is entirely too much avoided and it is a reflection upon the intelligence of many of our women, particularly, that every ray of sunshine is excluded from their houses. Medical treatment of these conditions should without exception be supplemented with systematic exercise in the open air and special stress must be laid upon the adjective "systematic." Let the directions as to duration and frequency be as precise as you would give for the administration of medicines.

Hydrotherapeutic measures will be of service in giving tone to the circulation, stimulating elimination and for the soothing and tonic effect upon the nervous system. A suitable diet, proper hours for rest and recreation and in children the regulation of the hours of study and the hygiene of the schoolroom will all require attention.

In the headache due to autointoxication, mercurial and saline purgatives, colon flushings, Turkish and Russian baths, and regulation of the diet will ordinarily be effective. Or, in other words, the relief of the autointoxication and the restoration of nerve tone will usually relieve the headache. In the same way that large class of headaches due to neurasthenia call for no special consideration as to the treatment. Temporizing measures to be mentioned later on, will sometimes be required.

Headache due to arterial changes, impaired renal function, the infectious diseases, anemia, and the reflex causes usually disappear under appropriate treatment of the local condition.

In the symptomatic treatment, the immediate relief of the pain is the first consideration and Doctor Joseph Collins, in speaking of the remedies applicable to these conditions, classifies them under the following heads:

"(1) Drugs derived from coal-tar distillation possessed of analgesic properties—phenacetin, acetanilid, salol, exalgin, and the like.

"(2) Drugs that are plant derivates acting principally upon the vascular system—caffein, cannabis indica and opium.

"(3) Mineral compounds, such as the bromides, acting principally upon the nerve cells and the salines acting upon the circulatory fluids.

"(4) Antispasmodics and paralyzers of striped muscular fibres such as ethereal substances and belladonna."

"It is often necessary to combine remedies from these four classes. Speaking generally, it may be said that those of the first class may be relied upon to ameliorate the pain in all headaches except those due to inflammatory disease and pressure. Those in the second group are serviceable in headaches characterized by marked deviation of blood pressure, caffein being the medicine par excellence in headache associated with lowered vascular tone and cannabis indica in those occurring with a pulse of high tension. The bromides have their chief use in epileptic headache and the salines are narrowly confined to the headache of autointoxication. The drugs of the fourth class are of use principally in headache associated with spasmodic and fatigued action of peripheral muscular apparatus."

Doctor Wharton Sinkler, in speaking of the therapeutic status of the coal-tar products in painful conditions, says that "While they have fallen into disuse as antipyretics, they are now more relied upon for the relief of pain by the medical profession than ever before and will continue to be until some better remedy is developed." He also speaks of aspirin as one of the newer remedies of this class, and the writer has found this to be of special value in conditions wherein the salicylates are indicated because of the smaller dose and that it is non-irritating to the stomach.

Doctor Solis, of Ann Arbor, in a recent article, says "static electricity is a powerful adjuvant in the constitutional state. It is given as the breeze followed by a half minute to one minute application of sparks along the length of the spine, the spark varying from a friction spark to a spark one inch in length. By this treatment every cell in the body is stimulated to better and more vigorous action, in consequence of which elimination is increased from every excretory organ and the patients' circulation, digestion, and general feeling are improved." The writer has also found the general application of static electricity a valuable tonic to the nervous system as well as a stimulant to the metabolic processes. In the relief of the paroxysm it is useful as well. The friction spark to the spine and the direct spray to the head or painful area affording very marked relief in many cases. A mild glavanic current may be used, one to five milliamperes for five minutes with one pole on the forehead and the other at the back of the neck, with good results, particularly if there is a marked psychical element present. In congestive headache an ice cap or other application of cold to the head in conjunction with a warm sitz bath or hot foot bath, will oftentimes afford relief.

Doctor William Browning finds aconite, veratrum, and gelsemium in doses sufficient to soften and control the pulse, by relieving intracranial pressure are of great value in mitigating the pains due to tumors of the brain. The local application of fomentations, menthol, stimulating liniments, or a mustard paste, the use of massage both general and to the scalp and neck, a darkened room, and quietude may afford some relief and are a source of much satisfaction to many patients.

Hardest of all to combat will be the habitual headache, a type which we all encounter from time to time, amounting in many instances to a degenarative neurosis. By maintaining the highest possible degree of nutrition with the occasional use of symptomatic remedies, scrupulously avoiding opiates, and by mental suggestion with its various methods of application, something can be done to mitigate the sufferings of these unfortunate ones.

After all is said, and despite the greatest diagnostic skill and most vigorous and painstaking therapeutic efforts, some headaches will remain unrelieved.

SOME LAWS IN MEDICINE.

By EPHRAIM CUTTER, M. D., New York.

Carnivora have small alimentary canals. Herbivora have large ones. That is, relatively, as to their diameters. The young of herbivora are carnivora. They feed on milk normally. Milk is animal food made from animal tissues by the protoplasm of the epithelia of the mammary glands. Vegetarians err when they class milk as food of the botanic kingdom. Calves fed on milk that they suck from their dams have small bellies, smooth hair and sleek looks. Calves fed on slops (vegetable food) have bay-window bellies, staring hair and rough looks. The reasons are (some of them), animal food is easier to digest and assimilate and confers more force or dynamics than vegetable food. Animal food has all the elements needful to build normal tissues, especially in the newborn, else said suckling calves would not thrive nor grow. As man is omnivorous, if man has enlarged, expanded, thickened, dilated alimentary canals, it may generally be assumed that said man has fed largely on vegetable kingdom foods. The law above furnishes a rational basis for treatment when said alimentary canal is abnormally enlarged laterally or not with fibrous thickening even to stricture. The writer has found this law true in practice.

HEARTY FOOD IS FOR THE HEART.

This is almost an axiom. The evidence is as follows: More than twenty years ago a man said to me in my office, "Doctor, I want you to examine me, but I do not want treatment," and he added, "Fifteen years ago my doctor said I could not live because of consumption. I tired of awaiting death and thought I would not worry any more but live as long as I could. I cough and raise and have night sweats; twice a month I spit up a half pint of blood, et cetera." The first exploration of microscopic inspection showed no morphology of tuberculous blood. I said to him, "The one thing you have not is consumption." "What is it then?" "I do not know; wait until I have finished the examination." The lungs were found normal, although lungs tuberculous for fifteen years ought to show marked lesions. But the heart's area of dullness and impulse was twice the normal area. There was also a mitral murmur. The left costal cartilages were pushed out about one inch more than the right, et cetera. I diagnosed the condition enlarged heart. The hemorrhages were caused by the heart driving so hard against the lungs. Doctor W. W. Gerhard, of Philadelphia, showed a like case during my pupilage. "What shall I do?" asked he. "But I was not to treat you." "I want you to," he said. After some skirmishing I felt I had a peculiar case to deal with and one much out of the ordinary, so I drew a bow at a venture and executed an idea given me, and then I said: "You eat anything you please but at *each meal take additional* one pint of beef essence and more if you can. He paid me and went away. Six months later he called and said: "I have not had a hemorrhage since I was here; neither does my side stick out." I had forgotten the case, but after recognizing the patient, said: "You are talking nonsense about your side." But I found his heart's area, sounds and impulse normal, and his left side as he said. At last accounts he was still alive and well.

Twenty-two and a half years before her death a lady had angina pectoris. Her husband, a physician, used to start on his rounds expecting to find her dead on his return. Palpation and percussion revealed her heart enlarged. Auscultation disclosed a mitral murmur. In attacks of dyspnea she had pain running from the heart to the left shoulder and down the left arm. She felt as if a giant grasped her chest so she could not breathe. Relief was afforded usually by a dorsal decubitus with feet higher than head. Sometimes Hoffmann's anodyne or brandy or other stimulant was given. But her sole solid food was beefsteak thrice daily. On this hearty food she recovered and her heart became so normal that two and a half years before her death from locomotor ataxia, a physician chancing in could discover no cardiac lesion on physical exploration.

A New York policeman, about forty years old, presented the signs of enlarged heart and a fibrinous concretion inside. Also of dullness on percussion and of wavy impulse twice the normal. Sounds were confused and mixed. The pulse was quick and irregular and the volume and impulse of the right radial artery were twice as strong as that of the left. There were paroxysms at time of palpitation, faintness, livid face, hippocratic countenance and a feeling of impending death. Faithfully had he been through the conventional treatment with digitalis and other heart sedatives, et cetera. There was some albuminuria, renal casts and fatty epithelia; also oil in the blood and fat in leukocytes. I kept him on beef as sole solid food, with sufficient water to maintain the specific gravity of the urine at 1015 to 1020 and thus have the blood of normal density, thereby making it less work for the heart to propel the blood. To cut a long story short, the radial pulses became equal, the heart's area and dullness much lessened, sounds distinct and the man felt well enough to undertake (without my knowledge and consent) to do night and day duty! This devoluted him and he died. It may be added that he came into my office once with a pulse of 160. With dorsal decubitus and feet higher than his head, after ten minutes had elapsed his pulse was 80, which demonstrated the value of physics in physic by lessening the heart's work as follows: In the standing posture of the body the heart drives the blood through arteries, capillaries and veins against a hydraulic (hemostatic rather) pressure of the height of the subject. In the dorsal decubitus with feet higher than the head not only is the said pressure removed but the weight of the blood aids the heart. Thus the heart's work is lessened and hence the said fall from 160 to 80.

Hearty food also physically lessens heart work. Blood that is thicker than normal from absence of water, from presence of fibrin filaments, thickened, massive, in skeins, thrombi; from crystals or granules of oxalate of lime, carbonate of lime, triple phosphate, cystin stellin, stellurin, uric acid, et cetera, is with more difficulty propelled than normal blood. The autonomic governing nerve centers of the heart take cognizance of the need of more power to be exerted to sustain life and make it work harder and hence it becomes enlarged. The blood impact in the ventricles and the direct reversal of the blood stream in cavities strung with heart strings offer favorable conditions for the formation of fibrinous concretions previously in the blood, and which also increase the heart work, and so the heart continues to grow. Now, I have been taught, and testify as second witness, that hearty food (assuming that the mineral foods, air and water, are always present in proper sufficiency) does bring enlarged fibrin filaments down to normality and thus removes the thrombi, skeins and fibrinous concretions. The water removes the crystalline bodies. This hearty food makes the blood easier to propel, and the work being lessened nature will restore normality, as nature is all the time trying to cure, other things being equal.

Again, hearty food confers the most force or dynamics to the heart. It does not ferment, as carbohydrate food ferments, into CO_2 gas which when found in the stomach in large excess and long continued is absorbed through the pericardium and partially paralyzes the heart, causing many deaths at night in bed. (I testify as second witness).

Again, when the heart is overwhelmed and enlarged, it, in my opinion, needs strengthening, not toning down. To give sedatives when the heart is working as hard as it can to save life, though conventional, seems out of place. If your horse has a hard day's work before him (he cannot work if his heart is weak) you feed him liberally. If the locomotive has a heavy train to haul more fuel is required. Hearty food does this for the heart in like circumstances. This law applies in asthenic-disease treatment. If, as the evidence seems to show, our bodies, save hair, teeth, and nails, metabolize, transform, or change once in seven months (not years), then plenty of good air, water and hearty food ought to make an enlarged heart normal by lessening its work, strengthening its tissues, replacing abnormal with normal tissues and giving nature a chance to cure. This has been done.

Again, inasmuch as the heart is a terminal organ, its blood-vessels are largely looped, bent backwards on themselves. Its coronary arteries run in the opposite direction to the aorta, their source. Thus the heart tissue circulations are easier to be impeded or retarded and hence the heart is more liable to fatty degenerations and to crystalline deposits. Now, the daily studies recently published in this journal, as to food producing or not producing albuminuria, renal casts, and fatty epithelia, evidence that hearty food is inimical to the signs of kidney degeneration. Hence it may be expected that hearty food would help to restore fatty degenerated hearts. Clinically it has proved so. Hearts weak, sounding as if, at a distance, painful and associated with the said signs in the urine, and blood too, for that matter, have been restored to strength, normal distance sounds with normal urine and blood. It would be difficult to prove this by autopsies. Patients are not killed as cattle are, for diagnosis of the cardiac fatty muscular fibers at the outset. Nor after the clinical cure can you kill and autopsy to prove absence of said fat fibers. Even this demonstration would not prove that they had been previously fattily degenerated. For practical purposes, however, such cases have been cured so that the disease could not be detected clinically, and this, we think, is doing pretty well. It goes without saying that the word *hearty* has direct sthenic relations to the heart or else our vernacular is all wrong.

Some hearty foods.—Beef, good and sound, freed from white fibrous tissue and extra fat, stands at the head. Whites of eggs next, then lean mutton, soft clams (mya arenaria), and whole wheat freshly prepared. The Bible "bread that strengthens the heart" was not made of modern flour.* Raw potatoes, sliced and fried with fat, only enough to keep them from adhering to the pan, and dates and rice are hearty

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*The word translated bread (Psalm 104: 15) is translated meat (Revised Version) in Samuel 20: 24. The Hebrew Dictionary, in "Strong's Concordance," makes said bread include meat. In Genesis 18: 5 (Revised Version) Abraham said to the three men, "and I will fetch a morsel of bread and strengthen ye your heart," while according to the 6th, 7th and 8th verses he set before them cakes, butter, milk and the calf he had dressed * * * and they did eat. So also in Genesis 1: 29 and 30 the word translated food (vegetable) is in Ezekiel 29: 5 applied to Pharoah and "all the fish of the river being meat for beasts and birds" (Authorized Version). So the inclusion of animal food here is Biblical.

foods. This is the extent of my knowledge on the subject. There are hearty spiritual kingdom foods. Music is one of them. It directly strengthens the heart as Dogiel showed with the sphygmograph. Everyone knows the effect of joy, peace, content, confidence in God, on the heart. When the heart can rest only between its beats, has to pump blood through more than one hundred thousand miles of capillaries; when the heart nerves outside nearly cover its surface with ganglia and branches (as Vesalins showed some five hundred years ago); when these automatic nerves act like a governor to a steam engine and also confer force for work, surely an ailing heart ought to have all outside support possible when weak. To me it seems that hearty food is the most direct and sensible.

LAWS CAUSAL AS TO FATTY ILLS.

(1) Retarded or impeded circulation (English idea).

(2) Fat food in excess.

(3) Carbohydrates in excess and especially in fermentation whose gases partially paralyze parts near and remote, thus producing. (1) (American idea). The writer is a second witness to this.

(4) Fats are carbon, hydrogen and oxygen; sugars and starches are carbon, hydrogen and oxygen, hence their mutual convertibility is easy.

(5) Oils are in a sense a degeneration of systemic fats that are solid at biological temperature (English idea), whereupon oil in blood taken through the skin capillaries is a sign.

In treatment, carbohydrates and fats are to be avoided. Also all things that retard the circulation of arterial, venous, and capillary blood, chyle, osmosis of glands, nerve force, normal heat and electricity, lymph, air, perspiration, peristalsis downward, to name no more. The circulation should not be retarded nor impeded by lack of water that produces increased specific gravity, allows normal salts to crystallize and makes the blood corpuscles adhesive and sticky. Nor should the circulation be slowed by physical environments, as tight clothing, lack of exercise, abnormal pressure from weighty burdens. The pressure of a barrel head on apples, forming facets and obstructing the cell fluids, has been followed by the conversion of said cell contents into amyloid and fat globules. The writer thinks that induced electricity on trolley cars supplies a biological motion that stirs the stases of fatty degeneration. Hence the modern electric car is a boon to those who have fatty ills and should be encouraged.

LAWS AS TO DYNAMICS OR DYNAMIS.

When our Saviour healed a woman as she touched his garment he said: "Who touched me? * * * Somebody hath touched me for I perceive that virtue (dynamis*) is gone out of me." Dynamis is that force which some impart to others and take away from others. It was what was prescribed for David by Abishag, his last wife, for heat, cherishment and ministrations. "But the king knew her not."

***The word our Saviour used is (dynamin) *δύναμις*, the accusative of dynamis. The writer is the first to use this word in place of animal dynamics.**

Greene said that no one could go out of the presence of the elder Pitt in his cabinet without feeling the stronger for it. Dynamis is a foundation stone of the successful physician who makes his presence a healthful boon to the sick. I remember once being quite ill in bed and visited by my father, the late Doctor Benjamin Cutter, of Woburn, Massachusetts. His mere coming in and looking at me was followed by ease of pain and refreshment. How often have I seen him take a cross, crying, peevish, eighteen-months'-old child from its mother all worn out by being up nights with her sleepless babe, and immediately the child would fall asleep in his arms and the mother would gaze astonished. I, too, until dynamis explained it. Those physicians, no matter how learned, who draw dynamis from patients are not popular and no wonder.

Dynamis stops pain. I learned this when suffering almost unto death with synovitis from a fractured patella. Ordinary analgesics availed not, but an old patient coming in was asked to rub the well knee and this stopped the pain in the injured knee. Once called to a gentleman in great abdominal pain, I laid my hands on the site. The pain ceased. If what is said of osteopathy is correct, dynamis must be their main remedy. So of massage. My right hand has been weak for weeks after conferring my dynamis on patients and relieving them. Dynamis is used to include all the body chemical, electric and vital forces. Perhaps the word constitution, a birthright from normal forbears, covers this word. When there is a good constitution (dynamis) very sick patients have a better chance for recovery than when there is a bad constitution. The conventional way of expressing the latter case is, "He is too far gone to get well." The family physician has the advantage of the specialist as he generally knows the family constitution and dynamis.

Those who "draw" dynamis from others should not be with the sick, who need it most of all, as it is more work for them to live than when well. Especially so is it with the neuroses. Divorce cases may come under this head when husband draws on wife, or vice versa, and cause the greatest martial incompatibilities. It would be well before divorce is decreed to see if there are not leaks of dynamis to be stopped, as for example, male neurasthenia from urinary catarrh or female catarrh from uterine lesions, et cetera. Constipation, in the writer's opinion, is often due to lack of dynamis caused by paralyzing intestinal gases, by other organs stealing it, as for example, the head, the uterus (else why so much bloat in gynecic cases?).

Worry is a great consumer of dynamis—"the useless expenditure of nerve force in ineffectual mental operations" (Salisbury)—one of the greatest hindrances to cure because dynamis needed for nature to cure with, is wasted, and nature is all the time trying to cure. Worry hinders somewhat like Sam Small's big whistle on a small steamboat—every time it blew the boat stopped! The injunction to stop worrying is some two thousand years old. The cures thus effected are due to the dynamis saved, no matter if the worry is stopped by believing lies.

Dynamis feeds on spiritual kingdom food, that is, the will. Music gave Napoleon's soldiers dynamis to drag cannons over the Alps. Dogiel showed that music gives increased power to the heart and muscles. Doctor Oliver Wendell Holmes, in "Over the Teacups," refers to music baths, two or three times a week, being as good as water baths in conferring force. Dynamis is also conferred by hearty food, fresh air and water. Dynamis alone is not enough to live on, but is good to tide over straits and ward off attacks of disease. My father told of a smallpox nurse in the war of 1812, who, unprotected by inoculation or vaccination, nursed the most serious cases, even slept all night in a hotel bed, all clothes unchanged, whence a man dead of smallpox had been taken at 8 P. M., unharmed. His dynamis was good, for, weakened in old age, he nursed a mild case of varioloid and died of confluent variola. The inference drawn from this, is, that this smallpox nurse, in his presenile days, had dynamis or constitution enough to make his body a nonfertile nidus to the power of such a mighty virus as that of smallpox. But in old age, when his blood-vessels were narrowed by, it may be, atheromatous deposits, his heart weakened, his kidneys less active, and so on, his dynamis was lessened and his constitution weakened to a degree, that left it unable to resist the onset even of varioloid. This is no new doctrine. It was once stated to me by no less a personage than the late Reverend A. P. Peabody, D. D., one of the corporation of Harvard University, who applied it not only to smallpox but to all other contagious diseases, saying that there was no need of suffering them if people would only eat the food that confers good sound constitutions. I think this is so.

EYE DISEASES OFTEN DUE TO DIET.

(1) *General principles.*—Oculists have said that dyspepsia causes ninety per cent of eye diseases. The taste for sugar in excess explains it to my mind. (See 3). Cataracts are forms of fatty degenerations. Fats are C H O. Sugars are C H O. Their mutual conversion is easy. This is seen in the germination and growth of oily flaxseed according to "Johnston's How Crops Grow." Experience shows that carbohydrates fed in excess produces fat and fatty degeneration. Thus much for general principles.

(2) *Special principles.*—While a medical student at Blockley Almshouse, Philadelphia, one day the clinicians ranged a hundred cases of eye diseases, all colors, sexes and ages, in a row outdoors and only said: "Gentlemen, you wanted to see eye diseases. Here they are; look at them." The sight, though comical from the ludricous variations of the ocular elements of facial expressions, roused the query in my mind, were not destitution and lack of food, or of proper food, the predisposing causes of such an aggregation of ommal (eye) ills? The answer based on these concrete instances of pauperism was in the affirmative. This has been confirmed by subsequent experience, save as to the lesions caused by wounds, burns, contagious infections, strains and exposures.

(3) *Experiments on animals with carbohydrates as to eyes.*—

About 1857 Doctor S. Wier Mitchell produced cataracts in both eyes of frogs and guinea pigs by hypodermic injections of one dram of the syrup of common sugar; also by half immersion of frogs in syrup. Later Sir B. W. Richardson, of London, confirmed these experiments. Still later the writer further confirmed them by examining the frog with cataractous lenses under the microscope, and finding oil and granular fat. The frogs died in an hour as a rule. One fresh triple-sized bullfrog lived several hours. Sugar, then, is an agent of power in the production of cataracts in frogs, and in being fatal in so short a time must be a poison to frogs. A pet house-dog fed on candy, oatmeal and vegetable food soon showed incipient cataractous lenses. Transferred to another family, she was fed on animal food and said lenses became normal. Sir B. W. Richardson once told me that "other things injected as above produced cataracts likewise." Doubters will please repeat the said experiments. The materials are easy to be had, and the experiments ought to be tried on man to clinch the matter. The late very eminent Professor Joseph Jones, of Louisiana, fed carnivorous turtles on parsley. Autopsies showed fatty degeneration. Alcohols are carbohydrates and in excess must be regarded as eye harmers. "Who hath redness (marginal 'darkness,' blearedness—Hebrew Dictionary) of eyes? They that tarry long at the wine."—Proverbs xxiii: 29-30. Drunkards on ethylic or common alcohol have bloated, congested conjunctival, bloodshot eyes and thickened eyelids. Drunkards on methylic or wood alcohol suffer blindness (one thousand cases reported in one vicinity in the South lately), to say nothing of the many who have died. This is testimony to the laws of alcohols as to human eyes. Ethyl alcohol is $C_2 H_5 H O$. Methyl alcohol is $C H_3 H O$. Unsearchable mystery—why $C H_2$ removed from ethyl alcohol should make a more deadly poison.

(4) *Therapeutic Studies on Man.*—This being so, incipient yellow cataracts would be expected to be common, especially in those who live largely on the starches and sugar that conventional society ethics deem the *ne plus ultra* of diet. A well-known oculist of Philadelphia and writer on eyes, said to a mutual patient who had yellowish-gray crystalline lenses of incipient cataract, that this was common in all persons over fifty years of age. A clergyman, seventy-two years old, said that his oculist informed him that he had amaurosis and must not preach as it would hasten the inevitable blindness. "Can I not preach?" said he to the writer, who, desirous not to counteract the expert directions and yet affirm the facts as to the great damages sugar had done on the eyes of frogs and guinea pigs, suggested a diet of two-thirds animal and one-third vegetable kingdom food; water and salt *ad libitum;* no sugar; assuring him that said diet would not harm him. Also he thought he could safely preach, and that while the eyes could not be restored they might grow no worse. He obeyed and grew no worse. Just before his death from peritonitis, about six years later, he was met in Park Square, Boston, crowded with teams, cars and people, taking good care of himself. He recognized me at

sight and said: "Last Sunday I preached to the spirits in (Concord) prison." A man of about sixty years said he had glaucoma and was prognosed to become totally blind. He was treated like the patient just mentioned. This was about fifteen years ago, I think. Not long since he was reported as having good vision and acting as a city assessor. A middle-aged lady had astigmatism and yellow lenses. She suffered much pain in her eyes and discomfort from spectacles. She adopted a sugarless diet for this and other complications with the result of dispensing with her glasses, her pain and incipient cataracts.

Doctor George M. Gould, in a recent paper in *American Medicine* on "Eyestrain and Civilization," says cataracts are due to eyestrain. Doubtless, but if he paid any attention to the experiments of his distinguished fellow-citizen, Doctor S. Wier Mitchell, he might be induced to class eyestrain as an exciting cause. Civilization ethics as to food are surely causes. Strains on healthy normal eyes are not usually disastrous. It is the weak, abnormal eye that suffers from strains. If the diet had been normal there would be fewer weak eyes.

SOME LAWS OF PHYSICS OCULAR.

The eye is a globe camera whose blood-vessels enter and leave side by side. The arteries terminate in loops so that the blood turns backward on its course. The corneas, the lenses and aqueous humors having few if any capillaries are nourished by osmosis. Hence the circulations are easy to be retarded or impeded, the English idea of causation of fatty degeneration.

It appears that the immersed frogs, as above, absorbed the sugar, altering the specific gravity of the blood, and impeding the normal eye osmosis. In other words, nutrition and metabolism of the eye are retarded and impeded so that oils and fats are deposited in place of the normal tissues. Chemistry shows there are not physical elements enough in carbohydrates to make normal ocular tissues, some of which approach bone in structure, that is, corneas and lenses. The circulation of the eye being in a closed globe where the pressure of the atmosphere is not present to resist, may also facilitate the retarding and impeding effects of blood pumped in by the heart and kept in the rigid sclerotic and corneal coats of the eye. The atmospheric pressure in the skin, for example, is elastic and yielding. Air cushions make the best resistance pads, as is known in machinery and hydraulics.

LOCOMOTOR ATAXIA IS NOT RHEUMATISM.

The pains of locomotor ataxia confound it with rheumatism, too often, it is feared. The question was lately asked in writing, "Cannot the profession diagnose this disease until it is evident to a layman"? It is possible for them to occur together, but a facile diagnosis is made by the blood. Rheumatism shows under the microscope huddled, rigid winrows of adhesive, sticky, drawn-out sometimes, red corpuscles; also gravels, rather crystalline, fragmentary, or granular, as oxalate of lime, triple phosphate, and carbonate of lime. Cystin, urate of soda, and uric acid are rarely found. The same is true of stellin and stellurin. The fibrin filaments are large, massive, networked together, sometimes in threads, single or multiple, or in skeins, sometimes massed in thrombi that may become emboli. These are not found in locomotor ataxia blood. This is the dictum of the second witness.

HAIR DISEASES DUE MAINLY TO DIET.

Hair must have food from the mineral kingdom. The peculiar smell of burning hair is due to sulphamid, the chemists say. Sulphur is mineral food. A recent writer has said that red hair is caused by silica in excess, that gray or white hair is due to soda, and black hair to potash. I think this is quoted correctly, but it illustrates the need of hair having three mineral elements, and the said writer also affirmed that by the removal of hair in trimming much mineral matter is removed from the body. It is evident that a diet which contains simply CHO, as starches, sugars, for example, cannot supply sulphur, potash, and soda, and hence the hair must be imperfect or diseased. A wonderful thing as to hair is its long extance after the death of its host. Not only this—it has been known to grow in the grave. I once saw tresses of hair taken from the grave of a woman who had been dead ten years of puerperal fever, and whose hair was clipped short just before death. Her father, Reverend A. P. Chute, a principal of Warren Academy, Woburn, Massachusetts, in my pupilage, bought a lot in a new cemetery and had her remains moved to it. He placed, on his return home, the postmortem hair on a flour barrel and the tresses hung down to the floor. This is authentic. Nevertheless, it is a matter of common observation that during the life of its host hair does not last as long as the tongue, that after death decays sooner. This is paralleled by the teeth. The question was put to a dentist—"Why do tongues last longer than teeth before death?" No answer was given. This seems a strange and curious thing, that organs of the body that defy decay longest after death should perish prior to death before the soft tissues. To me it seems explicable mainly by a diet defective in the mineral elements of said hair and teeth. In the absence of mineral food elements the hair becomes a weaker product and hence falls more readily to the prey of nocent parasites invading the hair follicles. Diet for the hair, then, should contain mineral food. Example: Years ago twenty kine were wintered on hay feed, water and salt. By their side twenty other kine were wintered on the same diet save salt. In the spring the salted cattle possessed a good coat of hair, while the saltless cattle suffered the falling and the loss of their hair. Probably it would have been the same if the salt had been in large excess as plants fed with too much manure (soluble mineral food) will perish as is well known; so that while mineral food is indispensable to have it must not be fed in too large a proportion, nor in an unassimilable form. When we eat an ounce of whole wheat bread we get at a moderate estimate, some forty or fifty doses of phosphorus, which taken uncombined would kill the taker. Hence the value of whole wheat as hair food. Some years ago the writer attributed one cause of baldness to the use of common flour and sugars. The lapse of more than two decades confirms this position. One reason alleged for the good condition of the hair of lower animals in a state of nature is that they get mineral food abundantly in natural foods. The so-reported goodness of the teeth of negroes, who live on sugar canes is due probably to the fact that the cane juice has its mineral elements unseparated by art. Hence molasses is better than white sugar. If the hair gets its normal elements of the mineral kingdom it will have such a constitution as will enable it to resist the parasites of baldness, some of which are yeast that when unanimalized will not infect the follicles as there is no nidus for them. But animalize them by wetting the hair with water and wearing constantly, indoors and out, air-tight covers to the head, and the heat, darkness and moisture will develop the vegetations, when they become animalized and invade the hair follicles, killing the hair, especially in those who have weak hair from deficient feeding. The writer is a second witness. In some of these cases, even if the hair was kept uncovered and exposed to the sun, air and light probably baldness would not occur. The light and air are destructive to the yeast bacteria and other fungi. No breadmakers set mixed dough outdoors in the sunlight and fresh air and expect the bread to rise.

MINERAL KINGDOM FOOD.

Air.—Foods are substances taken from without the body to become integral parts of the tissues biologically and necessary for life. Air is such a substance, as it is indispensable and enters into the blood and becomes a normal element in that liquid tissue. If this is doubted, let the doubter stop breathing for five minutes and then tell about it. Air is the first extrauterine food the nascent babe partakes of and continues partaking twenty times a minute until death even if he lives to the age of Methuselah. The idea of air being food is five thousand years old. A savant told the writer that in Sanscrit the difference between a man and a dog was this: "A dog walks out, but a man walks out *eating* air;" and this he said was written about three thousand years before Christ. If air, as Professor J. D. Dana taught, is a mineral, then oxygen and nitrogen and argon are mineral foods, and those who insist on a sole diet of vegetable food, disclaiming the animal, mineral and spiritual food kingdoms, belie their works by breathing twenty times a minute, and by drinking water, which is also a mineral food. The fact is, man should use properly food from all the four kingdoms and none have a right to inhibit simply because they cannot. Oxygen has received full acknowledgement as an air food from all our authorities. But nitrogen, that constitutes three-fourths of the bulk of air, awaits a recognition. It seems to be a case similar to that wherein a patient dies and the cause of death is not ascertained, as to say that nitrogen is not taken in as a food from the air because it cannot be demonstrated. The said patient died just the same as if the disease was known, and the cause is often registered unknown. Nitrogen is found abundantly in the various tissues of the human body. Some think that the dynamic energy of the nerve ganglions is due to nitrogen. Certainly nitrogen is active enough in its combination of nitroglycerin and the nearly six hundred different explosives listed in the "Standard Dictionary," depending for power on the nitrogen in their composition or the nitrogen of the air. The mere fact of one element constituting three-fourths of the volume of anything points to the activity of such element. The labors of the agriculturalists have shown how clover and lupines extract nitrogen from the air by nodules of bacteria on their roots and thus throw some light on the subject. Still the people are convinced of the usefulness of pure air food, and manifest it in their migrations to the seashore, the mountains, the forests and the ocean. Millions of dollars are spent annually in the quest for fresh air.

The morphology of air is an account of the forms of animal and vegetable life and inorganic substances that are found by microscopic examination. It is astonishing what a vehicle the air is for such substances—to say nothing of the winged pests that fly in the air, as mosquitos, flies, and other insects, conveying malaria, yellow fever and other diseases. Air also is a means of communicating food from the spiritual kingdom, carrying ideas in words, songs and music by its vibrations. Without air we could not hear nor breathe, in which latter case we could not partake of spiritual food. Without air there could be no animal nor vegetable food, as both kinds directly depend on air, for existence. Air, waterless, would not sustain life because of the drying of the respiratory tract, and, vice versa, water would not amount to much without air. Even fish would die in it.

Since air is so vitally essential it is well for the wise physician to see that his patients get fresh air abundantly. Fortunately the fresh, cold air treatment in phthisis is in vogue today. Would it were more so with all diseases. In one of my severe cases of typhoid pneumonia the outside windows and door were opened once an hour, and though the air was heavy with an icy fog, marked benefit was followed by recovery.

WATER IS AN INDISPENSABLE MINERAL KINGDOM FOOD.

As said before, waterless air would not support life. Had we no water in clear vapor or clouds, mists or fogs in the atmosphere, or as rain (distilled water), or as snow or hail, man would cease to live, as he could get no animal nor vegetable food. He cannot live on air and water alone. This earth would not have been so habitable were it not for the change wrought by the freezing of water, as ice free and interstitial in rocks, glaciers and the action of brooks, rivers, seas and oceans on the land to break it up into soil in which the botanic kingdom would flourish. Water enters in all the tissues of the body. It is the great solvent of all salts therein. It maintains the normal specific gravity of the blood, so needful for a normal circulation. It is present in the expiratory breath, in the sweat, in the urine, in bile, in all the secretions and excretions. The moisture it gives helps lubricate the joints, soften the skin, oil the respiratory tract, wash out from the blood, in the kidneys, the salines needed to be removed. It washes out the dense liver, and helps cleanse the intestines. In fact there is hardly a function not spiritual but that water aids. Indeed a waterless nerve fiber or ganglion would be useless.

The temperature of water makes a difference in its action on the alimentary canal. Lukewarm water excites peristalsis upwards, sometimes causing vomiting. Hot water excites downward peristalsis that passes the intestinal contents downwards to the anus—the normal way of exit. Hot water also excites contraction of the muscular coats of the alimentary canal when paralyzed or partially paralyzed by long continued action of $C\,O_2$ and other gases so that said gases are belched or voided by mouth and anus and one great obstacle to health thereby removed. This remarkable property has in times past been attributed to the infusions or teas drank, but the fact that clear water acts as well shows that the teas are not necessary. Cold water chills and paralyzes until it is warmed by the vital heat. In robust persons acutely ill this is not of much consequence, but in the chronically ill it is a matter of great moment to uselessly take away the vitality, and cold water should be avoided.

Water makes it easier for the heart. In rheumatism, which has been called a gravel of the blood, attended with sticky, adhesive red corpuscles, enlarged fibrin filaments, sometimes in threads, skeins and thrombi, and with crystals of oxalate of lime, triple phosphate, carbonate of lime, urate of soda, cystin, cholesterin, stellin, stellurin, uric acid (rarely, the others are most frequently found), the role of water is clearly seen to be needed to dilute the blood, render the red corpuscles less sticky and adhesive, help dissolve the fibrous filaments, wash out crystals and granules of the above named bodies, belonging to the blood but always in solution if there is water enough to afford a menstruum. Just here it seems as if the law that salts to be in solution must have a sufficiency of menstrua has a mighty place. Dissolve a drachm of chloride of sodium in an ounce of water and the solution is clear and the salt has disappeared from view. Then put a drop of the solution on a glass slide and let it slowly evaporate. If this is done slowly the octahedra will appear. If it is done hurriedly granules or confused masses of salt will appear. Just this, it seems to me, occurs in the blood and causes local depositions of gravel in the body. If so, then the way to relieve those depositions is by adding more water to the blood. I am happy to add that others besides myself have found this law to be true. In the writer's opinion, distilled water is the best water to dissolve out the gravels in the human body, no matter where located, because the more salts to the gallon the dissolving water contains the less will it dissolve. Indeed, waters loaded with salts are good to make gravels. I know a case wherein the Geneva Spring water, two hundred thirty-two grains to the gallon, was drank by a man who kept voiding uric acid calculi, one of which was so large that said company gave him five dollars for it as an exhibit that said water caused calculi to be voided. The proof that it was manufacturing the calculi is that on using distilled or spring water, nine grains to the gallon, no more calculi were voided and the man recovered his health.

THE GREAT WESTERN CLINICS.*

DUNSMOOR AND DUNN AT MINNEAPOLIS; THE MAYOS AT ROCHESTER.

By HAL C. WYMAN, M. Sc., M. D., Detroit, Michigan.
PROFESSOR OF SURGERY IN THE MICHIGAN COLLEGE OF MEDICINE AND SURGERY.

To find the real surgical atmosphere one must travel west not east from Detroit.

On a steamer bound for Bremen, a smoking-room acquaintance, a Harvard man and attaché of one of our European legations, a secretary, I think, said to me: "You westerners are a wonderful people. You have lots of towns and great manufactories. By the way, speaking of flour, can you tell me where Minneapolis is?" "About ten miles from Saint Paul and four hundred miles from Chicago," I answered. "Indeed!" and seemingly satisfied he continued. "We are always hearing of those western places, but who knows anything about them but a westerner?"

Frederick A. Dunsmoor, professor of surgery in the University of Minnesota, has been practicing medicine in Minneapolis for thirty years. He is devoted to surgery but is one of the ablest internists it has been my good fortune to know. His clinic is held at the Asbury Hospital every forenoon, commencing at 8 o'clock. One can see almost any of the ectomies performed there every day. His patients come from anywhere in the north, west south and east of Alaska as far as Missouri and the Great Lakes. Doctor Dunsmoor devotes his afternoons to the examination of his cases preliminary to operating, and, I think, shows great skill in determining the case likely to be benefited by surgery. His operating room is a regular workshop with abundant supplies of liquids of all sorts with sterilizing and healing properties. Apparatus and instruments are in cases and nooks and corners containing irrigating and sterilizing devices. I have seen him explore the brain with a needle after resection of skull, remove two ovarian cysts, operate on sundry cases of herniæ, extirpate the mammary gland, straighten and fasten with glass stems three cases of anteflexed womb.

Dunsmoor is an anatomist. His surgery always has a sound basis of structure to rest upon. Students are interested in his work. One side of his operating room has a rise of four tiers of seats and they are always filled. His assistants are like himself, all hard workers. He is a great believer in the value of water as a promoter of healing after operating. A double stream is running in nearly every wound. The table, floor, and patient are consequently very slippery, but either this or his discriminating art in diagnosis and selection of suitable cases, brings him results of a high and satisfactory kind.

Doctor James H. Dunn is also a professor of surgery in the medical department of the University of Minnesota. He is surgeon to Saint Mary's Hospital, and a great worker, thorough student and careful writer. I have seen some of his work; he treats cases of all sorts in general surgery—an amputation of the thigh for sarcoma of leg, complete amputation of the breast for carcinoma, appendicitis, gall-stones, et cetera. Doctor Dunn's clinics are scrupulous from the standpoint of technique, and like Dunsmoor's clinics, they are very popular with students.

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*Abstract of remarks before the Detroit Academy of Medicine.

Rochester, Minnesota, is a country village or smart town of perhaps four thousand people. There is a state asylum for the insane there, containing several hundred inmates. Doctor Mayo, senior, began practice there upwards of forty years ago. His sons, Doctors William J. and Charles Mayo, joined him in the work about twenty years ago. For many years Doctor Mayo, senior, was distinguished as the leading surgeon of Southeastern Minnesota. He is rather under average height, is advanced in years, but is rugged and active.

There is a hospital in Rochester called Saint Mary's. It is conducted by the Catholic Sisters of Saint Francis, a teaching and not a nursing sisterhood. It is full of patients, all of whom have been operated upon by the Mayos. With them I made the rounds of rooms and wards. The place did not appear like a hospital. Every patient, nearly, was smiling and had a most hopeful and cheerful air. By the bedside of many were bottles containing calculi which had been removed from biliary or urinary organs of the respective patients. Some had lately undergone gastroenterostomy. The McGraw ligature is much used for that purpose by Doctor Mayo. Other patients had been operated on for divers intraabdominal lesions, some had undergone intracranial operation, while others had been operated upon for goitre, yet all had a happy, interesting appearance which argued for speedy convalescence.

The Sister Superior is the chief assistant of the Mayos in the severest operations, and she is most accomplished in this work. There is very little douching done at operating, the dry method being practiced. Most perfect hemostasis is the rule of all the work, and the wound is consequently filled with forceps until ligatures are applied.

There are more than one hundred patients constantly in the hospital. I did not notice nurses evincing countenances bold with a look of self-importance. These maids, of cheerful, active disposition appeared to carry food, and do what little seemed to be needful for the comfort of the patients. A series of different colored cards indicates to the nurses what foods the patient is to have. A white card hanging over the record sheet means that a light liquid diet is prescribed by the physician; a blue card indicates milk and toast and soft-boiled eggs, while a red card denotes that the patient is to have the regular line of vegetable and solid foods. There was little pouring over charts and looking wise by the attending surgeons, but a great deal of quick, thoughtful and painstaking examinations and significant inquiry of patients. I saw only two patients who were in distress and in a serious condition; all the others were in a happy mood and progressing favorably, yet they had all been subjects of the most serious capital operations.

The operating room was equipped with very simple, essential devices. Sterilizers were large and plain—subject to much and constant use. Patients were gently fastened to operating table by a camisole for hands and arms, and a roll of gauze. The knees were secured to the table by a surcingle. Then the anesthetic, which was ether, was given by the drop method on the Esmarch mask. A woman administers it, and in some thousands of cases has had no accident. She talks to the patient, holding his attention while the ether is rapidly inhaled. I saw no vomiting or struggling. In no other hospital have I seen an anesthetic given with such quiet, forceful skill. The rapidity with which anesthesia is produced, and the ease and quickness with which its effects subside is here unequalled.

Every morning the Mayos operate on case after case in quick succession. Women and men, confident, smiling and assured, go to the operating table. In selecting the operable patients a large number of sick people are examined. This work is done at the doctors' office, where they have a staff of five or six able assistants who are constantly examining the incoming patients from every part of the great west and northwest. Practically all the industries of the town of Rochester are related to this great clinic. Ambulances meet all trains and carry those who cannot walk to the doctors' offices. The hotel of the town is fitted in elegance to accommodate the great number of visiting physicians, who come to town on a surgical pilgrimage much as the good Mohammedan at some time in his life goes to Mecca.

I met eminent surgeons from San Francisco and Chicago, from Kansas and Missouri, from Cleveland and Cincinnati—all charmed with the courtesy of the Doctors Mayo, and amazed at the skill and splendor of their achievements.

A CASE OF RESUSCITATION AFTER FREEZING.*

By JOHN R. BAILEY, M. D., Mackinac Island, Michigan.

Seven or eight years ago, while at a northern station, a soldier came to my quarters and said: "The commanding officer sends his compliments and wishes the doctor to call at once to see a comrade who has been out on the ice and is frozen almost to death! Come quickly; I think he is dying!"

Following at once, the man was found on the floor in one of the rooms of the barracks, perfectly nude. The commandant and six or seven men were rubbing him with snow. His right forearm and hand was in a bucket of cold water. It was stiff and frozen to the elbow. His left hand and part of forearm was frozen hard. His feet and ankles, shoulders and face were frozen and the whole body generally chilled. His mouth was closed and the jaws rigid, so that the mouth could not be opened. The entire body was icy cold and the limbs contracted and stiff. We were not sure he was breathing at all. He was not conscious, was pulseless, and the heart beat could not be detected. His feet and hands were turning black, and the face appeared livid, but there was a slight redness of skin over the heart. The situation was desperate, and I remarked to the men that we must do our best, but his chances for life were not worth two cents.

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*Read before Chippewa County (Chippewa, Mackinac, Luce) Medical Society.

There was a bath tub with hot and cold water in an adjoining room. Knowing that whitefish frozen so that they were apparently brittle had been thawed in pans of cold water and brought to life, the conclusion was to treat him as a frozen *coregonus* and watch the result. The men were directed to half fill the tub with cold water and let the hot water faucet run a little. When that order was executed the patient was carried to the room and placed in the bath. The tub was slowly filled to the overflow pipe, with water gradually warmed to 65° or 70°, never over 100° Fahrenheit. Not having a thermometer the degrees of warmth were estimated. The water was kept in motion, throwing it over his body and limbs, and his head was held by one of the men to keep the water from his mouth.

In a few moments we could notice the color of his chest was becoming natural. That slowly extended to other parts of his body and extremeties. His face was becoming flushed and breathing stertorous. Then breathing was less labored and circulation generally better. In about one hour and a half he gave a prolonged shout, like an Indian yell, and then the smell of whiskey was apparent. He was left in the bath an hour longer—two and a half hours in all—until the whole skin had assumed its normal color. I say normal, although his feet and hands had a somewhat shrivelled appearance. He was then, at 11 P. M., taken from the bath, wrapped in a woolen blanket, and placed in bed. He was asleep and breathing naturally.

When brought to quarters his shoes, dogskin gloves and clothing had to be cut from his body. It appears that he went with a companion to a near-by town, where he imbibed freely of liquor, and on returning was so drunk that he laid down on the ice field and fell asleep, remaining there about four hours, with the temperature —20°. His comrade could do nothing with him, so he went to the post and reported. The commander forthwith sent a team and men to bring him to the barracks.

When he was in the bath peripheral circulation could be gradually traced through the chest and body, then into the extremities, and finally into the hands and feet, until even the blackish appearance of the congested tissues had disappeared. The next day at 10 A. M. he seemed to have recovered, except toes and fingers, which were inflamed, with a tendency to blister and the occasion of some pain. I applied carron oil liniment, on cotton cloth, to hands and feet, with an outer wrapping of newspapers to exclude the air. At 8 P. M. the condition of his toes and fingers had greatly improved. I then opened the blisters on little fingers of both hands and third finger of right hand. On the third day the fingers and toes were almost natural. On the sixth day I discontinued the liniment and applied petrolatum dressing as required. On the nineteenth day patient shed all nails on fingers and toes, except the thumb nails and that of index finger of left hand, and new nails eventually appeared. He was soon ordered for light duty and later recovery was perfect.

This article is prepared from my notes of the case as reported to the Surgeon General of the Army, Washington, District of Columbia.

TRANSACTIONS.

CLINICAL SOCIETY OF THE NEW YORK POLYCLINIC MEDICAL SCHOOL AND HOSPITAL.

STATED MEETING, OCTOBER, 5, 1903.

THE PRESIDENT, JAMES HAWLEY BURTENSHAW, M. D., IN THE CHAIR.
REPORTED BY JOSEPH A. ROBERTSON, M. D., SECRETARY.

READING OF PAPERS.

DOCTOR FERDINAND M. JEFFRIES contributed the paper of the evening, his subject being "Immunity." It was a fifteen-minute résumé of the investigations culminating in our present ideas of immunity. The paper opened with definitions of immunity and infection and then described and classified the varieties of immunity. Following is an abstract:

After classifying the means by which immunity may be acquired, the speaker proceeded to a discussion of the production of toxins and antitoxins, and the statement was made that when the problem of the production of antitoxin is solved the problem of immunity will also have been solved. The subjects of hemolysis and bacteriolysis were briefly considered, and then the two chief theories of immunity were explained, namely, Metschnikoff's theory of phagocytosis and Ehrlich's side-chain theory. It was stated that neither of these theories explains all the phenomena of the subject, although they have each added materially to our proper understanding of the same. Other conditions than those explained in these two theories must be taken into consideration.

The paper closed as follows: "To sum up, the processes of immunity are exceedingly complex, and there is no theory yet advanced which satisfactorily meets the requirements of a thorough explanation. The end is only attained by the activities of all parts of the body, the cells as well as the fluids. Nor must we lose sight of the fact that the bacteria themselves are subject to variation, as an example of which may be cited the colon bacillus, the normal habitat of which is the intestinal tract, and which probably has to do with the processes of digestion, yet let the proper conditions be supplied and it gives forth its poison, that is to say, becomes pathogenic; and finally, we know that many or perhaps all bacteria produce in their growth enzymes which are bacteriolytic in themselves." A number of articles in English dealing with the subject were cited.

DISCUSSION.

DOCTOR ALBERT KOHN: Metschnikoff studied the white cells. The origin of his work shows how laborious it must have been, and it is wonderful how his theory of phagocytosis was gained on a theoretical basis, working on the lower organisms. He studied the exoderm, the endoderm and the mesoderm; the workings of this layer were to a certain extent of the same nature as those of the endoderm, that is, of a digestive type. He then began to prove his conclusions on marine animals, inserting foreign bodies in order to see what the action would be. He found that irritation was caused by what seemed to be attempts at digestion. Later, he modified his primary conclusions that the phagocytes were the only bodies concerned in the digestion of the bacteria and their toxins. His theory was accepted until Bouchard brought forward the theory that it is not the phagocytes that digest the live bacteria; that after their destruction they carried away their dead bodies. As to the question of susceptibility, according to Ehrlich, all consideration of such outside factors as hygiene, traumatism, et cetera, must be omitted. If we have receptors which in the one set of cells will unite with certain parts of the toxins, the haptophorous atoms, these receptors already exist, and they cannot be influenced by traumatism, hygiene, et cetera, unless the receptors are changed, decreased, or increased by those outside factors. The fact that the alexin bodies can be destroyed by heat, a fresh supply of sear added, and the properties of the alexin bodies return proves that the heat destroys the alexin.

DOCTOR JAMES J. WALSH: The subject of immunity is usually considered very complex. In reality, however, it is not more involved or inexplicable than is the simple matter of solutions. We pour sugar into water until it will not receive any more, but the same water will then take up a large amount of salt, and after it has become saturated with salt it will take up various other substances. A child suffers from scarlet fever and will not take the disease any more, but will, if exposed, take mumps or measles. It is as if the cells became saturated with the toxins of one disease after another. The first step in immunity, as regards our modern knowledge of the subject, was taken by Pasteur when he demonstrated that chickens at normal temperature would not contract anthrax, though if their temperatures were reduced to that of the animal in man, they were liable to anthrax. The six or eight degrees of higher temperature produced a natural immunity to the disease. In the light of Ehrlich's theory of immunity depending on the number of side chains or cells, one is tempted to wonder whether more side chains exist at the higher than at the lower temperature, and whether a chicken's immunity could be destroyed by a series of changes of temperature. As a matter of fact, Ehrlich's and Metschnikoff's theories are not so far apart as has often been thought. The protective substances in the blood and cells, according to Ehrlich's theory may well be supplied by the activity of the phagocytes. The first immunizing process ever invented was Jenner's vaccination. During the past week I have been with Doctor Calkins, of Columbia University, who has been working on the protozoon supposed to cause smallpox. This protozoon occurs also in vaccinia. In the case of vaccination, however, the parasites invade only the cell bodies, while in smallpox they invade the nuclei of the cells, grow much more luxuriantly, and after a time invade the whole body, thus producing a generalized septic condition. In recent years we have come to realize as the result of studies in immunity that babies who are fed on mother's milk are better protected against contagious diseases than are those artificially fed. The principal reason for this is that most mothers have had the ordinary diseases of childhood and enjoy immunity from them. Immunizing substances occur in their milk and are transferred to the child during the nursing. This constitutes another reason why mothers should be encouraged to nurse their offspring and not allowed to neglect this sacred duty unless there is some absolutely necessary reason.

REPORTS OF CASES.

AMPUTATION OF BREAST DEMONSTRATING TRIANGULAR DRESSING OF ARM.

Doctor John A. Bodine: I desire to exhibit three patients who have undergone amputation of the breast for carcinoma, and in whom the arm had been dressed during the healing period on a triangle holding the upper arm at right angles to the body. Attention is called to the consequent freedom with which the patients can use their arms. I have been using this dressing in all such cases for the past three years. An isosceles triangle, made of light splint-wood held in position by rubber adhesive strips, is so placed against the side of the chest that the upper arm is at right angles to the body, while the forearm in supination rests along one side of the triangle with the hand resting upon the hip. The triangle presses along the body between the line of incision for removal of the breast and the posterior puncture made for the drainage tube. The arm being in this position the patient is perfectly comfortable while in bed and also while walking about. Adherence of the skin flap and scar to the under surface of the arm after enucleation of the axillary contents is an inch and a half to two inches nearer the shoulder end of the arm when dressed in this position than it is when bound aganst the chest. It is this difference in position of attachment of the scar and skin flap to the arm that gives such freedom from cicatricial contraction following amputation of the breast.

DISCUSSION.

Doctor Robert H. M. Dawbarn: I have employed the method demonstrated by Doctor Bodine several times. It is more comfortable because the abduction of the arm slides the scar so that it does not adhere to the region of the vein nor the main lymphatics. Patients at times have been made very miserable after amputation of the breast by swelling of the arm, due to adhesion of the scar, the forearm and arm becoming large and edematous and annoying the patient for a long time. I avoid it, partly by carrying the incision up the middle or even posterior part of the axilla, although the main dissection is sharply forward in the anterior portion of the axilla where the main vessels lie. There is only one muscle which can take the place of the pectoralis major and minor, both of which must be entirely removed in the modern operation, and that is the deltoid. It is wonderful how this muscle hypertrophied, and being inserted into the outer third of the collarbone, with a very poor leverage, how it accomplishes its mission. In the case of women who have very weak deltoids (the reverse of those shown by Doctor Bodine), it has been part of my regular operation of late years to dissect free from the clavicle one inch of the anterior edge of the deltoid, and to carry it inward as far as it will easily go, and then to sew it to the stump of the pectoralis major. That muscle, in course of time, becomes hypertrophied, and it helps a great deal; but in cases in which this operation is performed, it obviously would not do to use the isosceles triangle, with its necessary abduction of the arm. In the technique just described, as to the deltoid, the cephalic vein is liable to cause trouble, and I generally tie it off, but this may not be necessary if great care is taken. It is only when the axillary vein is involved in the cancerous growth that saving the little cephalic vein becomes a matter of importance.

EXTIRPATION OF THE JAW.

Doctor Bodine: I also wish to present two cases of fact surgery to illustrate two practical points which I consider important in the treatment of these cases. Control of hemorrhage in all surgery above the level of the cricoid cartilage is accomplished by rapidly making an incision down to the carotid artery supplying the area to be invaded, passing an ordinary rubber band that has been boiled around the vessel, and having it pulled taut by an assistant, thus as effectually controlling the blood-current as in the case of an Esmarch bandage around a limb. The rubber is withdrawn after the operation is completed without having done any damage to the walls of the blood-vessel. I have followed this plan many years in excisions of the tongue or jaw and in other bloody work about the head or face. The second point that I wish to emphasize is that wounds of the face made by the surgeon should never be dressed with gauze. If no dressing whatever is applied and the wound is exposed to the atmosphere, it heals per primam. Dressings applied to the wound usually becomes saturated, either with tear or with saliva, thus certainly infecting the line of incision. One patient had carcinoma of the superior maxilla. A wide removal was practiced, the hemorrhage being controlled as stated above. He did not lose more than a teaspoonful of blood during the operation, suffered no shock whatever, and on the third day after operation was permitted to walk about the ward. The second case was one of removal of the left half of the upper lip, the gap being filled in by a plastic maneuvre. The wound healed per primam, no dressing having been applied.

FRACTURE OF THE PATELLA.

Doctor Bodine: I desire to show a third patient, who suffered fracture of the patella in which primary suture of the capsule had been practiced. In fracture of this bone the open operation of suture of the capsule is always to be preferred to treatment by splints. It is impossible to obtain bony union with perfect joint function in any other way than by open incision. The fringe of the fibroperiosteal capsule invariably drops between the broken margins of the patella, effectually preventing bony union. In addition, a blood clot forms, which becomes organized and fixed. The only objection one can bring against the open operation is the possibility of sepsis. This can be avoided with almost absolute certainty, as illustrated by the patient shown, who was operated on without the fingers of the operator touching the wound, only four instruments being used. The entire operation can be performed in fifteen minutes, without any pain whatever, and with the use of one-fourth of a grain of cocain. After incising the skin the blood clot is washed away by a stream of warm salt solution, the ruptured capsule is picked up and sutured with kangaroo tendon, and the skin incision closed by a subcuticular suture. A posterior splint is then applied and the patient returned to bed. It is not always necessary to enter the general articular cavity of the joint. The posterior reflection of the general synovial membrane is sometimes so high up on the posterior surface of the patella that the line of fracture is below it and the general articular cavity escapes. The patient was operated on four weeks previous to this meeting, and is now able to flex his knee-joint nearly to its full limit. In two weeks more it may be expected that the motion of the joint will be perfect.

DISCUSSION.

Doctor Dawbarn: In opening the discussion of Doctor Bodine's cases I desire to say, in regard to extirpation of the jaw, that I differ with Doctor Bodine as to the wisdom of never dressing a face wound, as I think that an occasional stitch abscess, due to exposure to dust, might be prevented by the use, for instance, of sterile gold-beater's skin court plaster, one of the best dressings. Lately I have modified the Ferguson incision in these cases, carrying it distinctly below the orbital plate, as, if carried into or closely below the lid, a certain degree of ectropion will result. The lower the scar, the safer the operation in this respect. I believe in a preliminary operation for control of the external carotid in every severe operation about the face, such as excision of the jaw, and am convinced that many deaths from shock would not occur if this procedure were carried out. Regarding the fracture of the patella, I will say that if it were my own patella, I would not submit to primary suture, but would have it treated by splints. I think a close fibrous union as satisfactory for practical purposes as bony union, and the element of risk much less, for some slight risk exists, even at the hands of the most rigid asceptician. I differ with Doctor Bodine in regard to the falling downward of the capsule between the bones being the chief cause of nonunion. I think the main obstacle is a bulging forward of the loose synovial membrane between the two fragments. The bones could not unite, of course, through this membrane.

Doctor James H. Burtenshaw: I well remember the first case of fractured patella that came under my care. I brought the two pieces of bone together by means of adhesive plaster applied to the anterior aspect of leg and thigh, bound the limb to a splint, and required the patient to remain in bed for about three months. The result was perfectly satisfactory. I think the danger of infection of the knee-joint by the open method very pronounced, but no greater, in the hands of a competent surgeon, than in many other wounds.

DOCTOR WILLIAM H. LUCKETT: I do not think it best to omit the application of dressings to face wounds. I am in the habit of applying a wet dressing to all primary wounds of this character, not so much for its antiseptic effect as for its mechanical action in preventing too early sealing of the edges, with consequent accumulation of serum and blood in small pockets, which are favorable points for the growth of bacteria. With regard to the quadriceps muscle, I think it helps to keep pieces of fractured patella apart, as well as certain tissues both in front of and behind the bone. I have never seen a synoval membrane come between the fragments from behind; in fact, the normal position of the membrane would prohibit this action. An absolutely bloodless field is necessary for a successful outcome of the operation, as one reason for adoption of the open method is to remove the fluid and blood from the sac and from between the two pieces of bone.

DOCTOR VICTOR PEDERSEN: It is a well established fact that there is no synovial membrane behind the patella in the human being. It stops at the margin of the patella, and behind it extends only as a modified membrane. Probably the structure which would interfere most frequently with union of the fragments would be the capsule.

DOCTOR BODINE: In closing the discussion I wish to say that the suggestion of interference with union by the general synovial membrane was entirely new to me, and from my knowledge of the anatomy involved, I do not see how it is possible. I did not think it wise to irrigate the general articular cavity of the joint at time of operation. The irrigation fluid would produce more damage than a moderate amount of blood effusion. It is only necessary to wash out the blood clot from between the two broken pieces and to suture the capsule. Operations should not be undertaken before the third day following the accident, during which time all oozing of blood from the broken surfaces has stopped, and the application of the tourniquet is unnecessary; in fact it is in the way.

ENCEPHLOCELE.

DOCTOR ALEXANDER LYLE: This child was born April 14, 1903, of healthy parents, and at birth had a tumor measuring one inch in diameter by one-half inch in depth above the nose and between the eyes. Through the courtesy of Doctor White I was asked to see the child, and I advised immediate operation. On April 17, three days after birth, the baby was placed under chloroform narcosis and a longitudinal incision was made over the tumor and the frontal bone The flaps were retracted, the sac dissected free and the contents easily withdrawn. Two small horns of the sac extended down into the nares. After the dissection was completed, it was found that the absence of bone corresponded in size and shape exactly to that of a silver quarter of a dollar. To cover this opening and to prevent a recurrence of the protrusion a corresponding amount of periosteum was raised from the frontal bone, turned on its pedicle and united with catgut to the margin of the ring. The skin was likewise sutured, a firm compress of gauze applied, and the head bandaged. The result was only fairly gratifying, and after a month a truss with double water-pads shaped like the finger tips was made and worn constantly. The present condition of the child is satisfactory.

APPENDICITIS WITH COMPLICATIONS.

DOCTOR LOUIS J. LADINSKI: I desire to show a girl, eighteen years old, on whom I operated for appendicitis. When I first saw the patient, it was impossible to make a diagnosis. A second examination a few days later revealed the presence of a large fluctuating tumor in the pelvis, posterior and adherent to the uterus, but nothing abnormal was found in the iliac fossa. An incision was made in the median line. The tumor was found to consist of a mass of hypertrophied omentum to which a coil of intestine and the inflamed appendix were intimately adherent. In the center of the mass was a large collection of pus. The tip of the appendix and the coil of the intestine were adherent to the walls of the posterior culdesac, and because of the gangrenous condition of this portion of the gut, about six inches of it were incised and a Murphy button inserted. The appendix was removed and the adherent omentum excised, and the pelvis and abdominal cavity drained from above. The patient made a good recovery after a protracted convalescence. Four weeks after the operation she developed a mastoiditis on the right side and the bone was incised and scraped. I also wish to present a patient with a large anterior labial hernia. There are two varieties of labial hernia, the anterior, which is similar to the scrotal hernia in the male, and the posterior, in which the hernia descends either in front of or behind the uterus into the vagina and labia. Labial hernia must be differentiated from fibromata, sarcomata, or cysts of the labia.

ORIGINAL ABSTRACTS.

MEDICINE.

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AND
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THE TREATMENT OF ACUTE RHEUMATIC CARDITIS AND PERICARDITIS.

LEES (*British Medical Journal*, November 21, 1903) begins his remarks with the statement that the treatment of acute cardiac inflammation is, in the great majoriy of cases, the treatment of an infection with the organism of acute rheumatism (micrococcus rheumaticus). He considers that sodium salicylate is as truly antirheumatic as is quinin antimalarial and mercury antisyphilitic. The dose must be a large one and must not be relinquished, as is generally believed, when the temperature is reduced, the pain relieved, and the arthritis diminished; for in the rheumatism of childhood arthritis is often absent altogether and pain may be slight while cardiac disease is severe. Under the influence of salicylate the cardiac dullness tends to diminish and the strength of the ventricular contraction to increase.

The author calls especial attention to the absolute necessity of administering along with the salicylate large doses of alkali. He regards air-hunger as the only symptom contraindicating the salicylate. This symptom is recognized by a deepening of the inspirations and is analogous to the well-known air-hunger of diabetic coma. The author has met but one case of this kind in a somewhat extended experience and this was in a patient who received salicylate without alkali.

The dose for adults should be twenty grains of sodium salicylate with forty grains of sodium bicarbonate every two hours during the day and every four hours during the night. Children from six to ten years old, ten grains of the salicylate and twenty grains of sodium bicarbonate. These may be gradually increased if necessary until the adult dose is reached. The mental symptoms, deafness and tinnitus, that so frequently occur in adults are seldom experienced by children.

The author cites a number of cases and goes into the subject much in detail, special stress, however, being given to the use of sodium salicylate. He combats the idea that the salicylate is a heart depressant.

The lecture is the first of a series on "The Treatment of Some Acute Visceral Inflammations." D. M. C.

SURGERY.

By HENRY O. WALKER, M. D., DETROIT, MICHIGAN.
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AND
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IDIOPATHIC DILATATION OF THE COLON.

R. W. MURRAY, F. R. C. S., of Liverpool (*Annals of Surgery*, November, 1903). The case reported was that of a boy four years old, who had distention of the abdomen since birth. Constipation was so great that on one occasion, when five months old, the abdomen became enormously distended, but was relieved by enemata. When eleven months old, he had another attack, lasting five weeks. After eighteen months the attacks were more severe and frequent. The patient at one time did not have a movement of the bowels for thirteen days.

When first seen by the author the child was two years old. There was a painless enlargement of the abdomen and tuberculous peritonitis was suspected. Three months later the patient was so much worse that an operation was advised. A median incision allowed some clear fluid to escape, but the opening was too small to observe the abdominal contents.

Fifteen months later, the patient returned without benefit from the previous operation. The abdomen now measured thirty-nine and one-half inches, when the normal measurement would be about twenty inches. The diagnosis was supposed distention of the gut, due to adhesions or kinking. Enemeta brought away feces. As the child did not vomit and the lower bowel readily held and discharged two and one-half pints of fluid, the lower part of the small bowel was supposed to be constricted. A second operation was performed and a large tumor, which proved to be an enormously distended colon, was delivered through an incision below the umbilicus. The gas and feces were removed through a speculum, reducing the tumor so that it could be returned to the abdominal cavity. The patient was not in a good condition for proceeding so the wound was closed.

Two and one-half months later the author excised the signoid flexure and descending colon, uniting the transverse portion to the rectum by sutures. The child recovered and no more suffers from constipation or abdominal distention.

The author mentions a case reported by Treves, wherein a similar operation was performed for what he considered an idiopathic dilitation of the colon. In both cases the gut was of normal thickness.

THE RESULTS IN BLOODLESS REPOSITIONS OF CONGENITAL DISLOCATION OF THE HIPS, WITH A REPORT OF CASES.

Gwilym G. Davis, M. D., Philadelphia (*American Journal of the Medical Sciences*). He reports four cases which were treated two to five years ago. The first, a boy of three, was treated for eight weeks by extension and abduction, and then operated upon. The abductor muscle was cut and the head of the femur replaced, according to Paci. The proper position could not be maintained on a splint so extension was again employed for two months. The limb was then put in a plaster dressing with the foot everted. When he began to walk, the plaster dressing was removed, and a metal brace used instead. Following is the condition two years and five months later: there is four-fifths of an inch shortening, patient can use roller skates, but there is some limping.

The second case was that of a girl, aged fourteen, who had both hips involved. Extension was effected with five-pound weights, the legs being widely separated. Operation: the abductor longus tendons were cut and the same method of reposition as in the previous case was employed. Condition two years and five months later: four-fifths inch difference in length of legs but patient stands erect.

The third case, that of a patient three years old, had both hips dislocated. She was immediately operated upon without previous extension. The result in this case is not so well known as the girl was lost sight of six months after the operation. At that time one hip remained in place but the head of the femur on the other side showed a tendency to escape from the acetabulum.

The fourth case was treated by the same method with a good result. This case was reported five years ago.

The paper presents some statements from a book published in 1900 and written by Lorenz, giving some of his results. In four hundred fifty cases he had three deaths from chloroform and shock, eleven fractures of the neck of the femur, one of the pubic bone, one of the ilium, three cases of paralysis of the peroneal nerve, seven of the anterior crural, some of the sciatic and one of total gangrene of the extremity. There were cases of stiffness of the joint and Narath hernia (a large hernia coming below Poupart's ligament due to tearing of the fascia lata.) It is apparent that Lorenz's visit to this country has left a wrong impression with the profession not only as to his own results but those obtained by other methods.

One can hardly understand what is meant by a cure, because of the standard set by different operators. Postmortems show that a cure is possible, when there has been good reposition with a perfect acetabulum and joint, but there may have been little deformity of the parts before reposition. Deformity of the head, neck or acetabulum may be present. Age is also an important factor. Under six to eight years of age total failures are rare and in one-half of such cases nearly a perfect result may be obtained. C. G. D.

GYNECOLOGY.

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A CASE OF FIBROMA OF THE OVARY.

Ewen J. MacLean, M. D., Cardiff, England (*Journal of Obstetrics and Gynecology,* November, 1903). Ovarian fibromata are rare, occurring in about two to three per cent of all solid tumors of the ovary. The majority of solid ovarian tumors classified as fibromata are really sarcomata. They may occur at any age between eight and seventy years, but are most common from forty to sixty. The growth may involve the whole ovary, leaving no ovarian tissue in the tumor; it may be within the ovary and surrounded by a capsule of ovarian tissue; it may be pedunculated from the surface of the ovary. Cystic and calcareous degeneration may occur. The tumor is usually very hard, rounded, nonsensitive, unilateral and mobile. It is characterized by a slow growth and may reach the size of an adult head or larger.

The pedicle is usually short and adhesions to the surrounding structures are generally found. Ascites is not invariably present but occurs in the majority of cases. Cachexia is absent and, as a rule, the catamenia unaffected. The ovary on the opposite side is frequently small. Torsion of the pedicle of the tumor, with pain and collapse, may occur.

Diagnosis is not always possible. "A markedly hard and painless tumor, moving separately from the uterus, in a very young woman, is most probably an ovarian fibroma." Ovarian fibromata may be simulated by pedunculated uterine fibromata, dermoids of the ovary or sarcomata of the ovary.

A patient, single, aged seventeen, complains of hard lump in lower abdomen with pain and discomfort in left iliac region. The swelling was first discovered sixteen months ago and was about the size of a hen's egg. The tumor gradually increased in size to present time and pain and dragging sensation grew steadily worse. Patient had absolute amenorrhea for twelve months. Before this she was very irregular but experienced no pain or menorrhea.

On examination the general condition was found good, and heart, lungs and urine normal. In the abdomen to the right of the median line was situated a smooth, hard, rounded, nonsensitive tumor rising out of the pelvis and reaching to within two inches of the umbilicus. It was movable from side to side and up and down. This tumor depressed the anterior and right lateral vaginal fornices. The uterus was retroverted. The cervix was soft and displaced toward the bottom of the sacrum. Movement of the tumor did not cause the cervix to move.

At the operation no adhesion and no ascites were found. The tumor was a solid one of the left ovary; right ovary infantile. The operation yielded good result. The tumor weighed nineteen and one-half ounces; circumference, twelve inches by thirteen inches; diameter, four inches by four and one-half inches. Ovarian tissue absent and replaced by fibrous tissue. C. L. P.

PEDIATRICS.

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CLOTHING.

Alfred C. Cotton (*Archives of Pediatrics,* February, 1903) says that improper clothing may not only interfere with growth from impairment of functions but may also cause deformities by undue pressure upon the plastic tissues during their formative stage. The constriction of the chest may not be solely due to rickets, but may be due to compression. Constriction of the abdomen may favor hernias as well as permanent gastric and intestinal disturbances, deformed liver and atrophy of all the muscular structures of the abdominal cavity. He demonstrates by skiagrams the compressibility of the infant's pelvis and adds that a diaper of unyielding material pinned firmly around the hips of a young infant will compress the pelvis, reducing its diameter. He believes also that genu valgum may be caused by the tight diaper. He advises loose clothing and diapers of absorbent cotton held in place by a bandage of flexible material.

RHEUMATISM IN CHILDHOOD.

Friedlander (*Pediatrics,* September, 1903) says that we must bear in mind that in rheumatism of children, even in marked cases, we may not have the successive involvement of many joints as we do in adults, in many cases only one joint being involved and the danger lies not in the rheumatism itself but in the cardiac manifestations. This organ may escape the first attack only to become involved in a recurrence to which the first attack predisposes. Prophylaxis plays an important role and the predisposed child must be carefully watched as regards clothing and regulation of exercise, avoiding exposure to wet and damp weather rather than cold. Growing pains, recurring torticollis, rapid development of severe anemia and abnormal conditions of the throat should receive special attention. Such children should be kept under observation for a prolonged period and absolute rest insisted upon.

OPHTHALMOLOGY.

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THE VALUE OF OPHTHALMIC EXAMINATIONS IN THE DIFFERENTIAL DIAGNOSIS BETWEEN TYPHOID FEVER AND ACUTE MILIARY TUBERCULOSIS.

Clarence Loeb, M. D. (*Archives of Ophthalmology,* September, 1903) gives a carefully prepared history of a case treated for typhoid although the Widal and diazo tests were negative. Ophthalmoscopic examination revealed tubercles in the choroid. A diagnosis of miliary tuberculosis was made and proven postmortem. The examination of the eyes revealed the following conditions:

The pupils were dilated, reacting somewhat sluggishly to light. Patient made no complaint of disturbance of vision, which is of common occurrence in at least the earlier stages of choroidal affections. No test cards were at hand to make tests for visual acuteness, but patient, to the evening before his death, certainly possessed a considerable amount of vision. In the right eye, I was unable to make out any pathologic changes. The left, however, showed in the lower and middle portion of the fundus, a small yellowish-white patch, lying immediately adjacent to one of the superior vessels. The limitations of the patch were fairly sharply defined from the surrounding fundus by its color, but there was no pigment ring. I was unable to determine whether the patch lay in the same plane as the choroid or projected forwards.

I again examined the patient on November 7. This time in the left eye there were two patches, in the same region, separated from each other by about two millimeters, and plainly projecting above the niveau of the fundus. A thorough examination of the fundus, so far as it was possible without the use of a mydriatic, revealed nothing further. In the right eye, however, there was now to be seen a focus corresponding to the others in all particulars except in size and position. It was smaller than they, and lay more towards the macula. A fortunate circumstance was its position beneath one of the retinal vessels, which could plainly be seen running over and raised by it.

My next examination was two days later. The left eye showed an increase in the size of the tubercles but not in the number. In the right eye, however, were two new ones. Their positions correspond fairly well to the course of one of the inferior temporal vessels.

Repeated examinations, continued to the day before his death, showed no change in the number of the tubercles, but a gradual increase in their size was noticed. Towards the last, the patient became more difficult to examine, owing to a supervention of a semicomatose condition. Patient died November 21, three weeks after he came under my observation.

The postmortem revealed a general miliary tuberculosis. Only the posterior segments of the eyes were removed. In the right eye were three yellowish nodules, lying subretinally and evidently arising from the choroid. Their positions were the same as I had made out ophthalmoscopically. Only three were macroscopically visible. The left eye contained only two tubercles, each about the size of the optic disc, and lying in the positions I had determined intravitam.

The microscopical examination of the tubercle removed showed it to be a fusiform enlargement with the long diameter from above, downwards, lying wholly within the choroid. The retina was detached from the choroid and the latter from the sclera during the process of removing and hardening. The pigment layer of the retina still adheres to the choroid except over the tubercle itself where it fails entirely. Portions of the choroid are adherent to the sclera. This is especially true of the area beneath the tubercle, where there has been a migration of the choroidal pigment into the sclera, accompanied by a slight degree of small-cell infiltration. A scleral blood-vessel is seen in cross-section, and the surrounding tissue shows a small cell infiltration. Otherwise the sclera is normal.

Opinions differ as to the frequency with which tuberculosis of the choroid is part of a general miliary tuberculosis. Cohnhiem found it in almost every case. I was unable to obtain the exact percentage. On the other hand, Dahl found it absent in all of three cases. Between these extremes are the findings of the following authors: Bouchert, ten per cent; Bock, eighty-two and seven-tenths per cent; Demme, twenty-one per cent; Litten, seven and five-tenths per cent; Carpenter and Stephenson, fifty per cent; also in nine and twenty-five one-hundredths per cent of tuberculous affections other than general miliary tuberculosis. From such wide diversity of findings, no fixed conclusions as to the frequency of the occurrence can be drawn, but we may expect to find tuberculosis of the choroid in at least fifty per cent of the cases of general miliary tuberculosis.

LARYNGOLOGY.

By WILLIS SIDNEY ANDERSON, M. D., Detroit, Michigan.
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SUPERNUMERARY TEETH IN THE NOSE AND THE MAXILLARY SINUS.

John M. Ingersoll (*The Laryngoscope,* September, 1903) calls attention to the possibility that supernumerary teeth may be found in the floor of the nose or in the maxillary sinus. A case is reported of impacted teeth found in the maxillary sinus in a four-year-old boy. The chief point of interest in this case is that the dentigerous cyst occurred in connection with the deciduous teeth. Such cysts occur more frequently with permanent teeth. Several other cases are reported, among which is one occurring in a patient forty years old with a syphilitic history. The tooth was imbedded in the floor of the nose.

THE HISTOLOGIC STRUCTURE OF BONY CYSTS OF THE NOSE, WITH SOME REMARKS ON THEIR GROWTH AND ORIGIN.

J. Kikuchi (*Archiv für Laryngologic,* Band XIV, Heft 2) believes that these cysts are structural abnormalities rather than the results of inflammatory processes. The presence of a well developed mucous lining to the cyst cavity is regarded by the author as an absolute refutation of their inflammatory origin. If the cysts were formed by the rolling in of the middle turbinal, together with a rarifying ostitis, the author believes that, inasmuch as the turbinal is provided with cavernous tissue, we ought to find a similar structure on the inner surface of the cyst. This is not the case.

He draws the following conclusions: (1) The bony cysts may originate in the cartilage of the fetal turbinals. One case shows it in a four-months' old fetus. The author believed this case to be an example of an aberrent ethmoid cell in the middle turbinal. (2) The character of the mucous membrane lining these bony cysts is identical with that of the ethmoid cells. The mucous cells are localized at the opening of the cyst. (3) The enlargement, or thinning of their bony walls, would gradually take place by resorption following an inflammation.

THE IMPORT OF THE SALIVARY GLANDS AND NASAL SECRETIONS IN HAY FEVER.

D. Braden Kyle (*The Laryngoscope,* September, 1903) lays great stress on the chemic changes taking place in the various secretions and believes that much can be learned by the study of the secretions from the mucous glands, as an etiologic factor in the causation of hay fever. He believes that local irritation may be brought about by chemic change in the secretions.

THE COMPLICATIONS OF HYPERTROPHY OF THE PHARYNGEAL TONSIL.

George B. Wood (*American Medicine,* October 3, 1903) believes the pharyngeal tonsil to be a distinct organ, although of no more importance than an ordinary lymph gland, and, therefore, there can be no objection to its removal if hypertrophied. He divides the complications of the hypertrophy of the pharyngeal tonsil into two groups, mechanical and infectious. Mouth breathing is due to the mechanical obstruction and favors infection. He attributes the backwardness of many school children to adenoids, also deformities of the chest and jaws. He gives the following statistics taken from the dispensary records of the Children's Hospital: Of the three hundred sixty-one children with nose and throat affections, eighty-seven were boys and sixty-two were girls. Nasal discharge or recurrent attacks of coryza were present in seventy-eight cases; some form of ear trouble was present in sixty-three, or forty-two per cent; symptoms of nasal obstruction were present in one hundred seventeen, or seventy-eight per cent; headache was present in twenty-eight cases, or nineteen per cent; cough in forty-five cases, or thirty per cent. All these symptoms depend on the adenoid hypertrophy and disappear after removal of the growth. When a number of such symptoms are present he believes a tentative diagnosis can be made in the majority of cases.

THE ARCH OF THE PALATE.

Henry L. Swain (*The Laryngoscope,* October, 1903) gives a careful review of the influences which modify the growth and development of the arch of the palate and concludes from his study:

(1) That it is possible by deforming processes which artificially alter the shape of the skull to produce a change in the form and shape of the hard palate.

(2) That under these above-mentioned conditions the septum seems to conform itself to the altered development of the rest of the face, rather contrary to our previous ideas regarding the habits of this structure.

(3) That if from arrested or retarded development of the superior maxilla the palate fails to descend to its proper level, a bent septum is liable to be produced, as when the palate is arched too greatly by

an unnatural narrowing process. Hence a palate of perfectly normal height as compared to breadth may produce a bend in the septum.

(4) That in considering the various causes which produce the abnormalities of the palate, we must lay more stress upon the lack of proper aeration of the maxillary sinuses retarding their development and hence that of the whole superior maxilla.

(5) The conservation and general care of the deciduous teeth help to produce a normal horizontal curve in the hard palate and lessen the tendency to narrowing.

THERAPEUTICS.

By DELOS LEONARD PARKER, PH. B., M. D., DETROIT, MICHIGAN.
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THE TREATMENT OF ANGINA PECTORIS.

DOCTOR WILLIAM F. WAUGH (*The Therapeutic Gazette,* November, 1903) says that while angina pectoris is usually associated with organic disease of the heart, it may occur as a pure neurosis. Whatever the cause, however, the disease itself is one that causes intense physical suffering and places the individual attacked by it in immediate danger of death. Doctor Waugh thinks the prevalence of this disease is more common than formerly.

As to treatment he thinks too little attention is paid to the patient during the intervals between the attacks. As to the paroxysm the best treatment consists of the administration of nitroglycerin in doses of 1-250 grain, repeated every minute until relief is afforded and the face flushes. This effect, he says, is prolonged by the administration of atropin in doses of 1-250 grain repeated every ten minutes until the mouth becomes dry. Doctor Waugh says any salt of atropin will answer for the purpose, but that he personally prefers the valerianate. By repeating the doses of the atropin whenever the dryness of the mouth subsides the paroxysm can be controlled indefinitely.

In addition to this treatment Doctor Waugh advises the exhibition of strychnin, preferably the valerianate, and any stimulant that may be at hand, such as alcohol, ammonia, pepper, ginger or other spice given in concentration and as hot as the stomach will bear.

After the paroxysm has passed the hygiene, diet and habits of the patient should be regulated. Concerning the use of drugs at this stage of the disease, Doctor Waugh says: "Structural lesions of the heart are to some extent amenable to treatment. Rheumatic, syphilitic and other deposits waste away under the influence of such remedies as the following: Mecrury biniodid 1-20 grain, iodoform 1-2 grain, arsenic iodid 1-67 grain, and phytolaccin or stilligin 1-2 grain, given before meals and at bedtime, and continued for months. The arsenic exerts an action upon the nutrition of the heart that would not be believed by those who give it in maximal doses for a week or two only."

In cases of uric acid manifestations administer colchicine in single doses at bedtime. Begin with one-sixtieth grain and gradually increase the dose until it causes slight nausea or catharsis in the morning; then continue as long as necessary. An occasional week's use of zinc phosphide, one-sixth grain, is of great value in improving the nutrition of the nervous centers.

EDITORIAL COMMENT.

POINTS IN REGARD TO LOCOMOTOR ATAXIA.

THERE exists a rather common idea that the various lesions of the spinal cord accompanied by sclerosis are in their nature steadily progressive. As a matter of fact the use of the term "progressive" to the patient is a most unfortunate one.

To tell a patient that he has "progressive" muscular atrophy is a needless bit of pessimism. It is bad enough to tell him the known truth—that he has a muscular atrophy—but the word progressive makes the future black to him. Not all cases of spinal muscular atrophy are progressive in the sense that the patient takes it. We, none of us, know either how fast, how far, or how long the muscular atrophy will extend. The term should be abandoned.

The same idea of steady progression is pretty generally held of locomotor ataxia. In the *Semaine Medicale* Marie and Mocquot ask the question—"At what age do tabetics die?" and then answer it from statistics of the Bicetre Hospital.

In general, tabes does not materially shorten life. Among twenty blind tabetics fifty per cent were more than sixty years old at death, and all but three were over fifty. Of the whole number of tabetics eighty-three per cent were over fifty and fifty-one and five-tenths per cent were over sixty years of age.

Such figures compel us to modify, somewhat, the common idea that locomotor ataxia, once started, is likely to progress steadily to a fatal termination. In truth, the progress of tabes is exceedingly slow. Were we to include, as we should, the years of so-called "sciatica," or "rheumatic pains," which precede the recognized ataxia, this would be still more evident. Even after ataxia and the more striking features of tabes are developed, progression of the disease is uncertain. Many cases even come to a standstill. The patient may either improve to a very considerable extent or at least become no worse for a period of many years. Were he to follow modern methods of training his muscles instead of, as is so often done, allowing them to become useless from disuse on account of the difficulty in managing them, such remissions would be still more common. At any rate his chances of dying early are not great.

In connection with the idea of securing remission, or keeping the patient so that he can still be useful and capable, it is worth while to call attention to Doctor Hammond's recommendation of massive doses of strychnia, which has lately been reported. "He bases his paper on the results of eleven cases, four of tabes, three of progressive muscular atrophy, three of optic nerve atrophy, and one of pseudo-muscular hypertrophy. The method of action assumed is that the strychnin improves the nutrition of the neurons in such a way as to arrest degeneration. Cases are reported in detail and the results are favorable. In no case, however, was the patient completely restored to health, nor was that anticipated. All he claims for the method is that it may in some cases arrest degenerative processes in disease, which have hitherto been regarded as hopeless. The amounts given by Hammond are large, the maximum dose reaching two-thirds of a grain three times a day, beginning with one-fortieth to one-fiftieth of a grain."

D. I.

CONTEMPORARY.

THE DOCTOR'S LIBRARY.

[SAINT LOUIS MEDICAL AND SURGICAL JOURNAL.]

An old saying is, "Tell me what company you keep and I will tell you what you are." The truth of this is obvious and we daily see its application in a variety of ways. We could say with equal truthfulness, "Show me a doctor's library and I will tell you what sort of physician he is." The very question of the doctor's library is one on which but very little has been written and it is time that something was said upon it. But in order to give it proper consideration we must take into account the various kinds of doctors' libraries which are seen as well as consider their owners. We find that the one is, as a rule, characteristic of the other and no mistake can be made by anyone who is gifted with any powers of judgment and discrimination.

In the first place we have the library which consists of but a few books apparently of a prehistoric age which have become antiquated beyond hope of redemption, and whose only leading quality is uselessness. Such libraries are much more numerous than progressive members of the medical profession would imagine. We have seen them very ostentatiously displayed on poorly made shelves nailed to the wall of a dingy office, breathing of squalor and fit environments for the owner who seemed to vie with the books in his own filthy condition. He did not consult the few dilapidated, old, musty books he had, trusting rather to an equally dilapidated experience acquired by an incompetent and ignorant mind. And still such individuals have their adherents and deluded admirers.

A second variety of medical library is that which is large and is composed of many old books with here and there a modern one, but all so arranged that their owner cannot find any particular one without making a complete inventory of it. After doing this he forgets what books he has and the same tedious process must be gone through again at the cost of much valuable time. It is for these that year-books are most valuable and they very properly discourage the bad habit of buying a lot of old junk which is of no value, but merely takes up a large amount of space and possess a bulk which never imposes upon him who is anything of a judge in such matters. The character of the physician who harbors such a hodge-podge is that of an individual who desires to make a great show at a very slight expense of money or work. He gets on in an easy manner and it is no dificult matter for an active competitor to rout him. We see such posing as authority, their position owing its strength to many books of doubtful authority which have never been read. These libraries and their possessors become well known and little respect is paid to the one or to the other.

In antithesis we have the library, large in size, containing all the latest and most expensive medical works. It is something magnificent and of the highest value to any one who desires to consult the latest and the best authorities. The best editions are chosen and the owner can point with just pride to his valuable collection. It, unfortunately, but too often happens that he has never read one and does not know the contents of his valuable tomes. He swells with pride when he exhibits his library, but is careful to keep the doors of his bookcase locked, affording others naught but a look at the backs of what would otherwise constitute a magnificent collection. The owner of such a library is puffed up with a good opinion of himself, but shows his deficiency at every turn and is only known as the owner, but not the reader, of a large number of fine books. He is soon gauged at his true worth and it is but late when he discovers what a loss to him it proved to be to spare the bindings and ignore the contents.

We next have the library of the physician who reads. This is not very large, although of such proportions that he is supplied with what he needs. He reads and studies his books during leisure moments and profits by such reading. He does not care to possess a very large number of books, but those which he does have are the best that he can procure. He desires to have books for the good which they can do him. His aim is to know one author thoroughly rather than struggle with the diversity of opinions of a number. What he does learn he knows well and his knowledge so acquired serves him to the best advantage when he is in need of such information. He is very apt to inspire others with a certain amount of fear and respect, for we have all been taught to beware of the man of one book. He is an individual who is exact, but he is also very apt to run in one narrow groove and his ideas are so governed by his solitary author upon any one subject that he becomes narrow and prejudiced and his ideas lack broadness.

We now conclude with the library which is large, in which are to be found books often referred to and constantly in use. Books of reference and monographs are numerous, and new ones are daily added and thus form a continuous accretion. This forms the writer's library and the order in which everything is arranged testifies to his orderly ways and methods. It is here that we find the material which furnishes his bibliography, so valuable to the writer and to students. Many volumes are consulted, but they are invariably returned to their proper places so as to be easy of access at any moment. It is here that we can judge of the character of the owner of these books. It is also in such a library that we find files of journals neatly bound, and it is here also that we find the numerous book marks of stiff paper marking certain passages that have been or will be used. Such a library fully exemplifies Bacon's celebrated aphorism, "Reading maketh a full man; writing maketh an exact man."

Much more could be said on the doctor's library and it may be said with truth that he who reads his medical journals carefully is certain to possess a good library.

MEDICAL NEWS.

REGARDING VITAL STATISTICS.

THE Committee on Vital Statistics of the American Public Health Association reported at the recent Washington meeting of that body, that effective cooperation had been instituted between that association, the Conference of State Boards of Health, the American Medical Association, the United States Census Bureau and the United States Public Health and Marine Hospital Service for improving the vital statistics of this country. The movement contemplates the extension of adequate methods of registration, the use of uniform and comparable tables and rates in bulletins and reports, and the improvement of the international classification of causes of death. A pamphlet on "Statistical Treatment of Causes of Death" has been issued by the United States Census Bureau relating to the difficulties encountered in compiling deaths from several causes, and asking for the cooperation of the profession in framing a satisfactory method of procedure in such cases.

MINOR INTELLIGENCE.

THE authorities of Columbia University are considering the erection of a hospital in connection with the medical school. The estimated cost of the proposed structure is about $2,000,000.

A FIRE, of unknown origin, which completely destroyed the medical buildings of Vermont University, occurred on December 2. The loss, estimated at $220,000, is entirely covered by insurance.

THE Industrial School for Crippled and Deformed Children, located in Boston, will soon be ensconced in a new building, on Newberry street, which is fast nearing completion. The present structure is entirely inadequate for the needs of the institution.

AN epidemic of bubonic plague is reported from Rio de Janeiro. Twenty-nine deaths have already occurred, fifty-two new cases have recently been reported, and at present one hundred nine cases are under treatment.

PLANS for two public bath houses have been submitted to the building department of New York City. The estimated cost of the new buildings, which will be constructed of brick, with limestone decorative trimmings, is $115,000.

JOHN D. ROCKEFELLER, the Standard oil magnate, who owns an estate near Tarrytown on the Hudson, the many orchards of which produced an enormous yield of apples this year, is manifesting his liberality by donating them to hospitals and other institutions in New York.

DOCTORS SAMUEL W. LAMBERT, Joseph A. Blake, George E. Brewer, John S. Thatcher, and Frederick Peterson were appointed professors in medicine in Columbia University at a recent meeting of the board of trustees. The first two doctors are to have seats in the medical faculty.

DOCTOR AUGUSTUS A. CLOUGH, Health Commissioner of Denver, is the inventor of a street sweeper that is calculated to prevent the dust which usually arises from the operation of such machines, and to obviate the costly necessity of the unpleasant and dangerous practice of sprinkling paved streets.

AT the recent meeting of the New York State Association of Railway Surgeons, Doctor James A. Eaton, of Montclair, New Jersey, read a paper in which was advocated better ventilation in passenger coaches. He protested vigorously against overheating, and favored flushing cars with water after each trip.

THE College of Physicians and Surgeons of the Province of Quebec, Canada, has decided upon a five-year medical course and decreed that British licenses shall henceforth be ignored in that province. A preliminary education as represented by the B. A. degree is also advocated for students who contemplate the study of medicine.

AT the recent Asheville (North Carolina) meeting of the National Dental Association, the following resolution was adopted: *Resolved,* That it is the sense of the National Dental Association that each medical college in the United States should include in its curriculum a lectureship on "Oral Hygiene, Prophylaxis, and Dental Pathology."

DOCTOR GEORGE M. LEFFERTS, of Columbia University, who will have completed thirty years of collegiate service on June 30, 1904, and who occupies the chair of laryngology in that institution at present, has announced his intention of retiring on that date, and has presented to the trustees his unrivalled collection of apparatus for illustrating the teaching of laryngology and rhinology. The gift, which has large pecuniary as well as educational value, will hereafter be known as the Lefferts collection.

Doctor George Haven has bequeathed to the Harvard medical school the sum of twenty-five thousand dollars outright and a share of the residue. To the Boston Lying-in Hospital he has given his books and instruments, valued at twenty thousand dollars, and the residue is shared equally with the medical school.

In accordance with the advice of the commissioner of health of Philadelphia, the schools of that city have been partially inspected by medical authorities, with the result that an average of twenty children have been debarred daily from further attendance, owing to some diseased condition. The chief affections from which they suffer are those of the eye, nose, and skin.

The Eastern Pennsylvania penitentiary has been condemned by a Philadelphia grand jury as unfit for the detention of convicts. The place has been stamped as a breeding ground for tuberculosis, more than sixty per cent of the deaths in the institution during the past thirty years having been due to this disease. The imperfect system of plumbing is likewise responsible for the unhealthfulness of the buildings.

Doctor John A. McCorkle, president of Long Island College Hospital, recently tendered a dinner to the Council and Hospital and College Faculties of that institution at the Hamilton Club. Covers were laid for twenty-seven. After the health of the host was drunk postprandial speeches were made by Professor George Plympton, emeritus professor of chemistry, and Doctor Ezra Wilson of the council.

An attempt will be made by the New York State Medical Association to have enacted, at the next session of the legislature, a bill abolishing the office of coroner. The association contends that no single individual possesses sufficient medicolegal knowledge to officiate in the capacity of coroner, and will therefore endeavor to have the duties of this official distributed to the city health department, the district attorney, and the city magistrates. A like bill was presented to the legislature last year but was defeated.

Cleveland has a new institution for the care of the sick, the Mount Sinai Hospital, which formally opened its doors, recently, under the Jewish Women's Hospital Association. It is nonsectarian and equipped to care for thirty-five patients, contagious diseases being excluded. The staff is composed of the following: Surgeons—George W. Crile, Frank E. Bunts, Carl A. Mamann; Gynecologists—Marcus Rosenwasser, Walter Lincoln, Oscar T. Thomas; Orthopedic Surgeon—Walter G. Stern; Eye, Ear and Throat—William E. Shackleton, James Stotter; Pediatrics—Dr. Lueke, J. C. McMichael; Dermatologist—S. Reigelhaupt; Internal Medicine—Arnold Peskind, A. Friedman, Emanuel Rosenburg, Alfred F. Maschke, Joseph C. Steuer, Lewis Robecheck, Daniel Heimlich, Dr. Kaplan, Isador J. Propper, Maurice Budwig, Myron Metzenbaum; Nervous Diseases—Moritz Lowenthal, Isidor Belkowsky; Obstetrics—Samuel L. Bernstein; Frank E. Bunts, President, Walter G. Stern, Secretary.

An unusual method of contracting venereal disease is reported from France. A citizen was accidentally struck in the face by the whip of a passing teamster, a syphilitic, who was in the habit of sucking on the end of his whiplash. In due time a chancre developed on the nose of the victim at a point where the lash had penetrated the skin.

A number of physicians of Saint Louis are fostering the idea of establishing a goat farm in the vicinity of that city and supplying the residents with goat milk, which is said to be immune from the germs of tuberculosis. If the scheme materializes goats will be imported from Switzerland, France and Germany. The animals will be rented to families desiring them and indigent persons may have them free of charge.

Doctors Henry Pickering Bowditch, William Williams Keen, William Henry Welch, William Osler, Russell Henry Chittenden and Charles S. Sherrington were the recipients of the honorary degree of LL. D. from the University of Toronto on the occasion of a special convocation which was held October 2, 1903, for the purpose of conferring honorary titles in connection with the opening ceremonies of the new physiological and medical laboratories.

An ordinance, to prohibit spitting in public places, has been introduced in the city council of Baltimore. The measure is more in detail than any other that has heretofore been presented, as the author contemplates suppressing the practice, not only on public thoroughfares, but also in all vehicles which carry passengers for hire, on the floors of depots, stations, theatres, stores, factories and hotels. Notices will be posted and a fine imposed on any person violating the ordinance.

Michigan's death rate during the month of October, 1903, was two thousand six hundred twenty-four, ninety-eight less than for the preceding month. The death rate was twelve and five-tenths per cent per one thousand population. There were four hundred eighty-nine deaths of infants under one year; one hundred eighty-five of children from one to four years inclusive; seven hundred sixty-six deaths of elderly persons, all over sixty-five years. Causes of death were as follows: Tuberculosis of the lungs, one hundred ninety; other forms of the same disease, thirty-five; typhoid fever, ninety; diphtheria and croup, seventy-eight; scarlet fever, seven; measles, three; whooping-cough, sixteen; pneumonia, one hundred forty-three; diarrhea and enteritis in children under two years, one hundred seventy-three; cancer, one hundred twenty-nine; deaths due to accidents and violence, two hundred two. Smallpox was the cause of one demise—in the city of Hillsdale. There was a slight increase of mortality from tuberculosis, diphtheria, croup and pneumonia. Typhoid fever caused sixteen more deaths than during the preceding month. A large decrease in deaths from diarrheal diseases of children was reported, also a decrease in deaths from cancer. The report shows an increase in deaths of elderly people, while there was a considerable decrease in deaths of infants and children.

CENTENARIANS who have recently departed for the elysian fields of paradise: W. H. Seymour of New York City, died on October 6, at the age of one hundred one years two months and twenty-one days, having been born on July 15, 1802. His age added to that of his four predecessors in line amounted to four hundred twenty-eight years. His father and uncle were soldiers in the Revolutionary war. Patrick Scanlon, of Wendell, Massachusetts, died November 21, aged one hundred three years, having been born in Ireland, March 15, 1800. Isaac Mitnitsky died at Brooklyn, New York, on November 28, aged one hundred nine years, having been born in Moscow, Russia, in 1794, his birth being recorded in the official records of that city. He came to this country when he was ninety-two years of age, and has since journeyed back to Russia no less than four times.

THE vaccine building recently erected by Frederick Stearns & Company is now finished and occupied. This building is quite distinct from the biologic stable completed about a month ago at a cost of $25,000. This building is entirely of brick, has but one outside entrance and no windows whatever, being lighted by skylights of the most modern and approved form, fitted with prismatic glass which diffuses a very strong light without allowing direct rays of sunshine to enter. Ventilation is had by means of powerful patent ventilators and electric fans. Thus the dust from outside sources is absolutely excluded, which is an important item in the production of pure vaccine. The building is heated by steam, lighted by electricity and provided with hot and cold water throughout. The large incubating room is equipped with iron stalls provided with small racks which the calves stand on. This raises the animals from the floor so that they do not stand in their own excretions even for a moment. The walls of this room are of pressed brick, enameled white, and the ceiling is arched or "coved," doing away with corners. The floor is of concrete, drained by a number of sewers. There is no wood in this room at all, even the racks on which the animals stand being iron, and these racks are scrubbed, sunned and sterilized daily, there being two complete sets. The room is cleaned daily. The cleaning and sterilizing room adjoins the operating room. Both of these are practically porcelain lined, the walls being of glazed white tile with all joints enameled, making a continuous snow-white waterproof surface as smooth as glass. The ceilings are covered here also, doing away with corners. The light is from skylights and the ventilation through flues. Neither of these rooms has an outside door or window. The sterilizing room is provided with electric clippers, by means of which the calves from the quarantine barn are very closely clipped; then the calves are scrubbed in a hot antiseptic bath in the vats with which this room is provided. After being thus thoroughly cleansed they are shaved over the area to which the vaccine is applied. Then being transferred to the next room, they are vaccinated and placed in the incubating room first described and fed on sterilized milk during the progress of the vaccinia which has been induced. It should, perhaps, be stated here that when the calves are first received from the farm they are placed in a quarantine station devoted entirely to their use, and are kept here for some time under the inspection of our head veterinarian, to demonstrate their entire healthiness, before being vaccinated. The operating room is as clean and aseptic as that of a modern hospital. It is provided with all necessary apparatus, and, like the operating room of the antitoxin laboratory, is considered without an equal. In this building also, but entirely separate from the vaccine department and not communicating with it in any way either by door or window, are the large injecting and bleeding rooms of the antitoxin laboratory. In the first of these rooms horses are injected with the toxins. The walls of this room are of pressed brick covered with white, waterproof enamel, and having coved ceiling and concrete floor. The operating room which communicates with this has walls of white glazed tile, exactly like those in the vaccine operating room, with arched ceiling and cement floor. The instruments are kept in plate glass cases, the antiseptic solutions, et cetera, on plate glass shelves—in fact, the arrangements are very similar to those of a hospital, as has been stated.

RECENT LITERATURE.

REVIEWS.

PRACTICAL MEDICINE SERIES.*

Volume III, practical medicine series—pediatrics and orthopedic surgery, by Abt and Ridlon. This volume is of special value to the general practitioner as it is a careful abstract selection by the author of the important pediatric literature of the year. Particular attention has been paid to the infectious diseases, and great care used in the selection of such material as will help the practitioner to become familiar with any recent literature that pertains to infant feeding and the other diseases of childhood. This book will be a convenient one of reference to the physician who wishes to keep himself posted on the pediatric and orthopedic work of the past year.

*The Year Book Publishers, Chicago.

A QUIZ-COMPEND OF ANATOMY.*

This book was first issued twenty years ago and is now brought out in its seventh edition. It has been rewritten and plates have been added to make it harmonize with modern text-books of anatomy. Considering the purposes of compends, this is an excellent one and will help the student to grasp the essential points of anatomy for examinations.

*By Samuel O. L. Potter, M. D., San Francisco. Price, eighty cents. Published by P. Blakiston's Son & Company, Philadelphia.

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ORIGINAL ARTICLES.

MEMOIRS.

REPORT ON THE RESULTS OF THE USE OF THE ELASTIC LIGATURE (McGRAW) IN FIFTEEN CASES OF GASTROENTEROSTOMY.*

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THE brief remarks which I propose making are not intended to do more than call attention to an easy, expeditious and safe method of performing gastroenterostomy or enteroenterostomy in certain classes of cases. It will not be urged that this method should supersede all others, or that it is fitted for all varieties of disease wherein gastroenterostomy is indicated.

Any method of performing a gastroenterostomy which advances claims to superiority over other forms of technique must substantiate these by showing that it is (1) more simple, hence easier of performance by the less expert; (2) that it is inherently safer, both theoretically and practically; (3) that it can be done more quickly by the average operator, or at least that it requires no more time to complete than other methods; (4) that it demands less complicated instruments; and (5) that it is especially adapted to the majority of cases which demand gastroenterostomy for their relief. Incidentally, other advantages can be claimed, but the five already mentioned should suffice.

I shall briefly describe the technique of this operation which has doubtless escaped the memory of some present, because the mere relation of the details will prove some of the claims advanced for the method.

As the only peculiarities of the method are those concerned with the formation of the communication between the stomach and intestine, any incision through the abdominal walls may be made which the experience or the fancy of the surgeon dictates. Personally, if I think it is possible that a pylorectomy can be done I prefer the oblique (Billroth) incision; when I am sure no removal of the stomach is indicated, I employ a median incision above the umbilicus.

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* Read at the Elkhart (Indiana) meeting of the NORTHERN TRI-STATE MEDICAL ASSOCIATION.

I do not propose to argue as to the advantages of anterior or posterior gastroenterostomy, the advisability of enteroenterostomy in addition to gastroenterostomy, or the proper direction in which to secure one viscus in relation to the other.

Having identified and selected the portion of intestine, this should be held, together with the stomach, by an assistant, gently upon the stretch, when a continuous seromuscular suture must be passed uniting the two for a distance of two or more inches, according to the size of the opening desired.

If the assistant will so hold the stomach and intestines that they are somewhat distended with flatus, this maneuvre will facilitate the next step by preventing the needle point catching in the valvulæ conniventes or the opposite wall of either viscus. A good-sized darning needle threaded with rubber ligature about three millimeters in diameter (one-eighth of an inch) must now be thrust through the stomach wall near one extremity of the suture line and made to emerge near the termination of the same. It will thus be seen that any-sized opening desired can be secured. An assistant, by maintaining traction on the elastic ligature, renders it much smaller so that it can readily be drawn through the stomach for about half its length. Next the needle should be made to penetrate the intestine opposite its point of emergence from the stomach and be brought out again, with the ligature, at a point corresponding to that where the stomach was first entered. This order of passing the ligature is better than the reverse, being not so liable to produce infection should the ligature touch any viscus, and is also advantageous by not putting so much strain on the suture line. Needless to say, tension on the ligature favors its passage, and a careful wiping of the cord by a wet sponge after its emergence first from the stomach and later from the bowel, is advisable. Done in this way I cannot conceive how infection can occur, even if the ligature breaks—an accident which has happened to me—because the opening is tensely filled by the ligature, and if this breaks, the orifice is so small that I have never seen the fluid visceral contents escape. A stout silk ligature must next be laid between the points of emergence of the rubber cord from the stomach and intestine. The rubber ligature must now be firmly drawn upon, an assistant crowding the included visceral walls well along the stretched *ligature,* after which the first half of an ordinary square knot should be tied and tightened until the ligature will stretch no further, as shown by the two members of the tie no longer slipping past one another. Proceed deliberately at this point, for a steady, prolonged pull must be maintained, otherwise the cord will either break, or will not be tight enough to cut as quickly as desirable. The assistant should tie the silk ligature tightly with a square knot around the rubber half tie, the ends of which will at once assume their former diameter when the tension is relaxed, that is, become four or five times larger than where secured by the silk ligature, thus preventing slipping. The second member of a square knot can be made with the stretched rubber ligature and tied with the silk ligature, if deemed advisable. Cutting the rubber ligature close to the silk tie and burying this with all the tissues included in the rubber loop by a continuous silk seromuscular suture completes the anastomosis, when, after cleansing the parts and dropping them back into the abdomen, the parietal wound is to be closed.

Let me advise, as a result of experience, that only the best *new* rubber ligature be employed and that it be tested before using to ascertain what is the utmost tension it will stand without breaking, and also to recognize the sensation imparted to the hands when it has reached this point. Doctor Angus McLean's needle is also a distinct advantage for passing the ligature, but a good-sized darning needle is all that is actually requisite. In like manner this specially prepared tapering, elastic cord is desirable, but not essential, especially with McLean's needle.

Only the briefest recapitulation will be requisite to demonstrate the truth of my five contentions, although somewhat more than these will be seen to be therein included. Surely nothing can be more simple and require less technical skill than the procedures I have described. The inherent safety both theoretically and practically need not be further dwelt upon. The time requisite to complete the operation should be no more than when the Murphy button is employed, the size of the opening is unlimited, and the minute foreign body formed by the loop of the ligature can be confidently ignored.

No special instruments are demanded, no clamping of intestine or stomach to prevent escape of their contents, no elaborate packing off of the abdominal cavity to prevent infection.

No other method, except that by incision and suture, can provide any but a small opening, and no one will, I presume, claim that except in the hands of a somewhat expert person this method of forming an anastomosis is either rapid or safe.

One of the dangers of gastroenterostomy is the so-called "vicious circle" caused by one of three conditions, the first of which only deserves this name: (1) accumulation of fluids and food in the duodenum with prompt regurgitation of the same into the stomach through the artificial opening; (2) the passage of food into the duodenum, distending this, causing motor insufficiency of the stomach from partial stagnation of its contents; and (3) reflux of the jejunal contents into the stomach caused by the act of vomiting, as Fowler contends. It does not require much of the intestinal contents in the stomach to excite revolt on the part of this organ, hence a persistance and increase of the emesis which in turn serves to perpetuate the cause. The tendency to vomit incited by the anesthetic and the stomach trauma usually subsides after the first two days, that is, before the opening has been made between the stomach and intestine by the ligature, which alone renders jejunal reflux or the true circulus vitiosus possible.

Is there no dark side to this roseate picture? Certainly. When an immediate communication between the stomach and intestine and between intestine and intestine becomes requisite, the elastic ligature is absolutely contraindicated. When, for any good reason, at least three, possibly five days cannot be spared before full stomach feeding is instituted, the decision should be given against the ligature, although it must be rare indeed when a case fit for any gastric operation cannot be at least partially nourished by the rectum for the requisite period. Moreover, dilatation of the stomach not due to malignant disease of the pylorus or complete obstruction of this orifice is one of the most common conditions for which we do a gastroenterostomy, and in such cases the requisite delay is rarely dangerous. When not contraindicated for the reasons already given, or for other adequate ones, the superiorities of the elastic ligature render this the method of choice.

If the very simple precautions be taken, which I, in common with the originator of the method, have urged, I do not think that Fowler's application to the rubber ligature of a saying of Codivilla's concerning the Murphy button, is warranted, namely: "Its good function is always in God's hands."

The fifteen cases reported have been all those which during the last eighteen months would consent to operation or which were considered fitted for gastroenterostomy. Other cases declined operation or intervention was not deemed proper. No fatality traceable in any way to the method of operating occurred, although one patient died in thirty-six hours from exhaustion, and another in eight days from a carcinomatous obstruction of the colon. A postmortem examination in both instances demonstrated that the method of operating had nothing to do with the fatal result. No failure to secure an adequate opening has been observed in any case, except the one dying within thirty-six hours, time enough not having elapsed for the proper action of the ligature. While these twelve cases are not enough to settle any moot question, so many other observers have reported successes that surgeons are beginning to feel a well-grounded confidence in the McGraw method, and I have therefore contributed my mite to the general fund of information on this important subject. Several of these operations having been done during my absence in Europe by one of my assistants, Doctor Darling, my report is all the more valuable because embodying the experience of two operators. I am so much pleased with the method that I expect soon to be able to report a much larger number of operations, for, while I have frequently opened the abdomen in the past and declined to do anything further on account of the extensive disease present, I consider the ligature method such a slight additional danger when the abdomen is once opened, that I shall now feel inclined to give cases the benefit of the doubt and shall make gastroenterostomies by the ligature in many cases wherein formerly I declined to intervene.

SURGERY OF THE STOMACH.*

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I WILL not attempt in this short paper to review the literature of the surgery of the stomach or describe any of the operations employed, but will give brief histories of some hospital cases and draw a few conclusions. The success achieved by Schlatter in completely removing the stomach in 1897, stimulated professional study and experimentation in the surgery of this organ, but the conditions under which total extirpation should be attempted are so seldom found and the mortality so great, that it will always remain a rare operation. It may, therefore, be dismissed without further consideration.

While the surgeon has been active the general practitioner has not been idle. From his investigations the stomach specialist has been developed and they have both united their efforts to relieve pain and lengthen human life. They have improved the methods of diagnosis and demonstrated the possibility of speedy cure in cases that were formerly neglected. They also select and cheerfully assign to the surgeon certain cases not curable by medicinal treatment alone. The surgeon is rapidly developing a better technique and reducing operative measures to their simplest forms. A large percentage of cures and a small death rate are strong testimony to these facts. The exploratory incision, even in those cases wherein the disease is far advanced, confirms the specialist's diagnosis, if nothing more, and many times enables the operator to prolong life for a period, when previously no such hope could be given.

Taking, then, Schlatter's reported success as a starting point, our first case came to operation April 14, 1898. He was a farmer forty-six years old. Eleven months before entering the hospital he noticed a "bunch" in the epigastric region. There was little pain or vomiting but great weakness and loss of flesh. A median incision was made, disclosing a growth in the pyloric end of the stomach extending toward, but not entirely closing the duodenum. A gastroenterostomy was performed with the Murphy button. The patient made a good recovery and gained flesh rapidly but died some months later from advancement of the disease. A postmortem revealed the button in the stomach.

Case II.—This case was referred from the medical clinic, with complete stricture of the esophagus, first noticed three months before. Patient lost forty-three pounds and was much exhausted by starvation. Gastrostomy was performed but patient died on the following day from exhaustion.

Case III.—Mrs. B., aged thirty-seven years, was admitted to the hospital May 11, 1899. Some months before she noticed fermentation and eructation, and five months before noticed a tumor which had increased in size. The patient was very much emaciated but did not show marked exhaustion. She was operated upon May 25, 1899. The stomach, when exposed, showed a carcinomatous growth over more than one-third of its surface. About two-thirds of the organ was removed.

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*Read before the WAYNE COUNTY (Detroit) MEDICAL SOCIETY.

The patient made a good recovery, and was able to eat nearly all kinds of food and attend to household duties for a time, but died fourteen months after the operation from extension of the disease.

Case IV.—T. J. W., fifty-five years old. Patient entered the hospital January 18, 1900, with a tumor in the epigastrium and symptoms of pyloric obstruction. His weight had been reduced from one hundred thirty-five pounds to one hundred thirteen. The tumor was found to occupy the pyloric end of the stomach. About one-third of the organ was removed and the cut parts united by sutures. The pathologist reported the growth to be lymphosarcoma. The patient still lives and is in good health, more than three years after the operation.

Case V.—A carriage painter, age thirty-two years, entered the hospital with a tumor in the epigastric region, which he had only recently noticed. Exploratory incision revealed a growth involving practically the whole stomach and surrounding lymphatics. A diagnosis of carcinoma was made. The abdominal wound was closed, and healed promptly, but the patient died a few weeks later from exhaustion due to extension of the disease.

Case VI.—B. L., male, aged forty-nine years. This patient had a history of stomach disease, with a tumor that could be felt beneath the edges of the left ribs. Exploration showed a large mass involving the stomach wall and the neighboring lymphatics. No attempt was made to remove any portion of the diseased tissue. The patient died a few weeks later.

Case VII.—A male, forty years of age. Patient came to the clinic with the usual symptoms of stomach disease, such as pain, vomiting, increased pain after eating, et cetera. An exploratory operation was performed. The stomach was found to be involved to such an extent, by what was supposed to be a carcinomatous growth, that nothing further could be done. The wound was closed and the patient made a good recovery from the operation, but no further history of the case could be learned.

Case VIII—A male, aged thirty-four years. This patient was referred from the medical clinic for operation. He had experienced discomfort in the stomach for some time, usually vomiting about one hour after meals. There was severe pain just above the umbilicus. This pain, after eating, was relieved by vomiting. The attacks had not been so frequent during the past few months, but for several weeks he had noticed tenderness on pressure over the abdomen. A growth could be felt in the epigastric region. Exploratory operation was performed in this case and a tumor, supposedly of the pancreas, was found compressing the duodenum. No attempt was made to remove it. Patient's normal weight was one hundred sixty-five pounds, while in the hospital he weighed but one hundred thirty-five pounds. He made a prompt recovery.

Case IX.—A man, came to the hospital because of a tumor in the region of the stomach. He was always well until about one year before, at which time he began to have pain in his stomach after meals. About six or eight months before he entered the hospital he first noticed a growth, at that time scarcely perceptible, but now quite large and freely movable. Examination showed a tumor to the left of the median line, and on a level with the ribs, about the size of a small orange. Operation was performed September 26, and a tumor was found in the interior wall of the stomach, with general lymphatic enlargement. The wound was closed without further procedure, and the patient was discharged fourteen days later with incision entirely healed.

Case X.—Male, came to the hospital in May, 1901, because of distress in the stomach, loss of weight and strength. About a year ago he noticed that certain articles of food seemed to cause a great deal of gas in the stomach. He was obliged to induce vomiting to obtain relief. During the past two months the condition had been much worse. He had lost fifty pounds in the last year. Esophageal bougies met with obstruction and could not be passed beyond it. A diagnosis of carcinoma of the cardiac portion of the stomach was made, and on June 6 a gastrostomy was performed, the patient making a good recovery. On December 4 he was still taking food by fistula but was able to take some food by mouth, if sipped slowly. Here was a case of complete obstruction on June 6, date of operation, and only partial obstruction on December 4. His weight had increased.

Case XI.—George E. entered the hospital because of distress in the stomach. Patient had been unable to do any kind of work for six years previous. He had gradually grown worse and for the last two years had used the stomach tube three or four times daily, two to five hours after eating. When he came to the hospital, three months before operation, a tumor could be felt below the edge of the ribs, and a little to the right of the median line. The last two or three weeks preceding the operation patient had been fed by the rectum most of the time, and the stomach washed frequently. When he was operated upon it was observed that the tumor had entirely disappeared. An incision was made in the median line extending from the ensiform cartilage to the umbilicus. An obstruction to the pylorus was found, which was probably not a malignant growth. A gastroenterostomy was performed after the method of McGraw. He was discharged from the hospital four weeks after the operation, apparently cured.

Case XII.—A clergyman, aged thirty-two years. Patient had had distress in his stomach for four or five years, and had vomited blood at times. His weight had been reduced from one hundred ninety to one hundred ten pounds. Operation June 2, 1902. The pyloric end of the stomach was very much thickened and the celiac glands were also enlarged. Diagnosis, carcinoma of the stomach. A gastroenterostomy was done by the McGraw method. The patient died eight days after the operation. The cause of death was obstruction due to extensive adhesions shutting off the colon. These adhesions had been overlooked at the time of operation, though others had been separated where any danger was thought to exist.

Case XIII.—A man, was admitted to the department December 16, 1902, and died December 31. Exploration revealed a mass in the region of the pylorus which proved to be carcinoma of that portion of the stomach, involving the gall-bladder and duodenum, forming complete obstruction. Gastroenterostomy and enteroenterostomy were performed, the patient dying on the following day, probably from shock. This and the preceding case are the only ones in which deaths occurred in the entire list of gastroenterostomies.

Case XIV.—John C. This patient underwent operation in December, 1902, for the relief of symptoms due to dilated stomach. His weight had fallen from one hundred twenty-five to seventy-eight pounds. A gastroenterostomy with enteroenterostomy was performed by the McGraw method. The patient recovered rapidly.

Case XV.—A male, aged forty-eight years; a salesman. He had had poor digestion and other marked symptoms of dilation of the stomach. Just above and to the left of the umbilicus was a small tumor which could be moved up and down but not from side to side. An oblique incision was made exposing the stomach, the pyloric portion of which was much thickened, and there was obstruction in that part of the organ. A growth, undoubtedly cancer, was found on the anterior portion of the stomach. A gastroenterostomy and enteroenterostomy were performed by the McGraw method. The patient nearly died because of obstruction, probably due to swelling about the suture or a kinking of the intestine. Just as I had about determined to open the abdomen a second time the condition righted itself and the patient made a good recovery.

Case XVI.—A female, aged forty-three years, entered the hospital because of loss of weight and pain in the stomach. The trouble began about one year ago. The pains would be periodic, with a feeling of heaviness and distress, which was relieved by vomiting. At the time of operation she had lost ninety pounds in weight. A growth, supposed to be carcinoma, was found about two and one-half inches from the pyloric end of the stomach, which completely encircled the organ. In the lesser curvature two masses were found smaller in size but of the same character. The neighboring glands were enlarged and also those of the celiac collection. A gastroenterostomy and enteroenterostomy were made with the McGraw ligature. The patient made an uneventful recovery. Three months after leaving the hospital she wrote that she had gained twenty pounds, was feeling perfectly well and could eat anything.

Case XVII.—A woman, aged fifty-four years. Patient's discomfort began twelve years before her entrance into the hospital. Her weight was much below normal, and she had been told that she had a tumor connected with the stomach. An exploratory incision was made. The exposed stomach showed involvement of the pyloric end, including the peritoneal covering. The lymphatic nodes along both curvatures, as well as the celiac glands, were enlarged. The disease was too far advanced to attempt resection of the stomach. A gastroenterostomy and enteroenterostomy were performed with the McGraw ligature. The patient made a good recovery and when heard from some months later was doing well and able to eat all kinds of food without distress.

Case XVIII.—A man, was admitted to the hospital June 22, 1903, because of distress in the stomach, which began a few months before, and was growing rapidly worse. He had lost at least fifty pounds. Little or nothing seemed to pass the pylorus and he had every evidence of rapid starvation. He was so far reduced that he seemed far from being a good subject for operation, but a few days of rectal feeding and washing of the stomach improved his condition. Exploration was advised and accepted. A mass involving the pyloric portion of the stomach and extending about four inches along the lesser curvature was found. The celiac glands were somewhat enlarged but a hope was entertained that it might be due to other causes than extension of malignant disease. The diseased portion was removed with a good margin and the divided parts united with two rows of sutures. The pathologist reported carcinoma. The patient made a good recovery except that he had a phlebitis of the left femoral vein. On December 24, 1903, the patient reported that he was in perfect health.

Case XIX.—A male, was referred from the medical clinic on July 30, 1903, because of pain in the epigastric region, difficulty in swallowing, loss of weight and eructation of gas. This had been rapidly growing worse and he was able to swallow food only at intervals. A diagnosis of carcinoma of the esophagus was made and an operation advised. August 1 the stomach was exposed and the lower part of the esophagus, together with a large part of the cardiac portion of the stomach, was found invested with a cancerous growth. Because of the extent of the growth and the debilitated condition of the patient no attempt was made to overcome the obstruction of the esophagus. It was difficult to obtain a suitable piece of the stomach wall, free from disease, for effecting gastrostomy. This operation was performed, however, and the patient was fed by the opening every two to four hours. He recovered from the surgical procedure, but two weeks later began to show signs of mental disturbance, and at times was quite delirious. He was removed to his home, where he died some months later from extension of the disease.

Case XX.—A resident of this state, aged fifty-four years. Patient's distress began about thirty years ago, when he had a hemorrhage from the stomach. There were long periods of good health, but recently the attacks had become quite frequent. This patient gives a history of ulcers associated with dilatation of the stomach. An operation was advised and accepted. The usual incision was made and the stomach exposed. On the anterior portion of the organ, about three inches from the pylorus, a cicatrized area about one inch in diameter was found involving all of the wall. To the centre of this the omentum was attached as a heavy cord. This was separated. A single lymphatic node was found enlarged; this was removed for microscopic examination. A gastroenterostomy and enteroenterostomy were performed, the McGraw ligature being employed. The patient made a good recovery. Examination of the gland failed to reveal any signs of malignancy.

To these hospital cases I might add two others which were treated in private practice, wherein dilatation of the stomach had reached such a serious stage that the patients had but a short time to live because of starvation and autoinfection. Gastroenterostomy and enterostomy by the McGraw method gave prompt relief from all symptoms and in both cases the patients gained rapidly in flesh.

These are not selected cases. They were all treated by general practitioners and came to the surgical clinic as a last resort. There were three cases of partial gastrectomy. One of these, who was operated upon four years ago, is alive and well. One operated upon six months ago is enjoying good health at the present time. The other lived fourteen months after operation. There were three gastrostomies, all of the patients having starved to a dangerous condition before operation. One died on the day following surgical procedure. There were five explorations where nothing further was done, all recovering from any ill effects of operation. The subjects all showed advanced carcinoma and any one of them might have been made more comfortable if an earlier diagnosis had been made. There were eleven gastroenterostomies, including two private cases, with two deaths. Seven of these were for obstruction of the pylorus from carcinomatous growth. Four were for dilated stomach. It rests with the general practitioner to advise or discourage the idea of an early exploration and possible operation in these cases. The above record should convince the most skeptical physician that surgery of the stomach is of great value in averting starvation, removing discomfort, and prolonging life, for the following reasons:

(1) The comparative safety in exploratory incisions with the possibility of doing some good.

(2) The low death rate following resection, even when a large portion of the stomach is removed, and the great comfort which follows.

(3) Gastroenterostomy has become one of the safest abdominal operations in cases wherein the patient has not been too much reduced by disease and starvation, when any operation of magnitude would be considered unsafe.

The names of these operations have long been known to surgery but recent improvement in technique has given them a new and familiar meaning. Let us not believe that the best results have been obtained, but rather let us look forward to early diagnosis, with removal of malignant conditions, and a complete cure.

COMMENTS NOT FOR CONTROVERSY BUT FOR LIGHT.

By EPHRAIM CUTTER, M. D., New York.

EMPYEMA TREATMENT.

Doctor Trimble, in *American Medicine,* November 7, 1903, presents an able paper on empyema treatment by rib resection, making clear that the drainage resulting is the main element of cure. But would not the same result be attained by a seton between, for example, the fifth and sixth ribs and the ninth and tenth, and not mar the skeleton?

In 1856, just before graduation in medicine, the writer did thoracentesis and removed one and a half gallons of clear serum from a bedridden case. This was followed by empyema and death. The autopsy showed the lung bound down to the spine in a bundle of massive fibers, looking like a bologna sausage. Since then he has had considerable experience in thoracentesis.

To show the fallacy of physical signs that seemed indisputable, in the case of a boy, the trocar introduced yielded no fluid. A knitting needle inserted was pushed in to strike the other side of the thorax, but no fluid sought exit. Two other sites were explored likewise. Patient died. The autopsy showed the lung enlarged with medullary cancer and the outer third of both clavicles congenitally absent. His father's clavicles were likewise absent.

Another case wherein the physical signs were all present no fluid could be procured with the largest canulas. The writer told the assisting faculty that he would perform digital thoracentesis, that is, make an incision parallel to the ribs two inches long in the skin and force his forefinger through the intercostal space into the chest and make an opening large enough for the effusion to exit. This was done. When the finger penetrated it found the periphery of the thorax lined with a velvet carpet that felt as if one and one-fourth inches thick. Some of this removed was a golden yellow color. The pleural effusion was evacuated.

These cases are mentioned to show that the writer knows pleural effusions and to introduce the comment that in later years he has treated cases of empyema successfully simply by giving nature a means of cure, or dynamis, through the mediums of good sound, nonfattily degenerated beef and water as food, on which human life can be sustained in health indefinitely.

A case of pleuritic effusion in the lower third of the right chest existing five years, also with capillary bronchitis and uterine lesion of place, is under his care. The nascent chlorid of ammonia was used for the bronchitis, aristol vectors and replacement treatment for the uterus, and two-thirds animal food to one-third food from the vegetable kingdom—whole wheat mainly—together with a pint of hot water four times a day. The bronchitis was cured, the local lesion relieved, and the last time the patient was seen the respiratory murmur was heard nearly all over the lower third of right chest and percussion was clear.

* * *

AMERICAN DEMONSTRATION OF THE FORMATION OF RED BLOOD CORPUSCLES IN THE LIVING SPLEEN.

In *American Medicine,* November 8, 1903, Doctor E. T. Williams has a paper on this demonstration in blood of *dead* spleens. It is due to cisatlantic medicine to say that a half century ago my teacher did this in the spleens, *living and in situ naturali,* of birds, cats, dogs, fishes, horses, opposums, oxen, pigs, raccoons, reptiles and sheep.

The writer has confirmed this formation of the red blood corpuscles in living spleens of frogs and turtles and demonstrated it to others, one of whom is Doctor G. B. Harriman, of Boston, Massachusetts. The human living spleen is yet to be examined. This the writer proposed to do with Guiteau's spleen (the murderer of President Garfield) after his conviction, but his proposition was refused. Hence he is in full sympathy with Doctor Williams' plea that this should be done. If all surgeons would promise, as Doctor H. O. Marcy, of Boston, has done, to examine the splenic blood in cases of laparotomy, this would soon be accomplished. The nearest the writer has come to demonstrating the formation of the red blood in man was in the discharge from a lymphatic gland abscess at the angle of the lower jaw of the right side. Quite a number of leukocytes at different times were found with red corpuscles inside.

THREE INTERESTING OPHTHALMIC CASES.

EDWARDS H. PORTER, M. D., TIFFIN, OHIO.

A WELL-PRESERVED, hard-working German, aged seventy-five years, presented himself in July, 1902, giving the following history: He had lost the left eye at the age of ten from a blow and a complete atrophy of the eyeball had been the result. Until two weeks ago the right eye had been perfect, except for the usual presbyopia. While at work in his garden hoeing potatoes, he found a great many potato bugs. One ran over a piece of board that was lying on the ground and he crushed it with his hoe. The juice from the bug flew into his face and hit him in the eye, on the nose and forehead. The bugs were not the common variety, but were the large species, megalosoma.

The accident happened two weeks before he presented himself at my office, during which time he had been under the care of his family physician. There was a very severe conjunctivitis, with corneal ulceration and a marked iridocyclitis. On the tarsal conjunctiva of the upper lid there was an ulcerated patch the size of a pencil head, and wherever the bug juice had come in contact with the skin, there was a large eschar covered by a thick yellow scab. The skin lesion did not heal for over four weeks. Appropriate treatment for the eye was vigorously begun and the symptoms gradually subsided. The eye was well in about six months. At the present writing, October, 1903, the patient has completely regained his vision, and says that he threaded a needle without glasses the other day to see what he could do. The tarsal conjunctiva is still badly scarred and has a hard cicatrix where the ulcer was, and the skin bears the marks of where the poison struck. The juice of the megalosoma is similar to cantharides, and would of course produce disastrous results wherever it touched the skin or mucous membrane.

* * *

A WOMAN brought her little daughter, two years old, to my office, and gave the following history: Two weeks before the mother had missed the child and went to look for her, finding her before a hive of bees. As she ran to her, the bees came out of the hive and swarmed about the child's head. They were driven off and the little one carried to the house. She was stung over fifty times on the head, face, and neck. One bee had stung the child through the outer upper quadrant of the left eye. The family physician was called and treated the child, who for several days was terribly sick, the whole head being swollen to almost twice its size. On the second day after the stinging, during a violent fit of sneezing, a bee was expelled from each nostril, and on the third day, two bees were vomited from the stomach. A severe iritis, with keratitis was produced by the apis, which gradually subsided with appropriate treatment, leaving, however, an opaque cornea with decided infiltration. This cleared nicely in three months under succus cineraria, a small infiltrated spot being left where the cornea was punctured by the bee sting. The child has recovered perfect health.

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At the same time that the above case was being treated, an old man of eighty-four presented himself stating that he had been stung in the eye by a bee. Again the cornea was punctured and an ulcer had developed. Trichloracetic acid was used immediately to cauterize the ulcer and the usual treatment for ulcer with iritis given. In this case the cineraria was used with good results and now after three months the eye appears perfectly normal and the patient has good vision.

THE BUTLER TYPHOID FEVER EPIDEMIC.

By GUY C. KELLER, Butler, Pennsylvania.
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The typhoid fever patients at Butler, Pennsylvania, already number one-thirteenth of the population of that city, and the best informed authorities think the disease will claim not less than one-tenth of its population before it is checked. Perhaps no greater typhoid fever scourge has appeared in this country since the epidemic of Plymouth, Pennsylvania, in 1885.

Butler is situated thirty miles north of Pittsburg, on a hill in a hollow, so that one going out of the city in almost any direction must go down one hill and up another. It is an old city, in an oil district, and has a population of sixteen thousand, mostly intelligent and independent people who have massed their fortunes from the oil fields. The population has been doubled in the last five years. A large part of this increase consists of foreigners who located here because of the large iron and glass industries. Naturally this gregarious foreign population is massed in the vicinity of the factories under unfavorable hygienic conditions.

The city is beautifully situated, with all modern improvements, and a visitor merely taking a superficial view of the town would pronounce its sanitary condition excellent, but closer observation would reveal many deficiencies of a sanitary nature. Indeed the eight-inch sewer which is located in the main street does not carry all the sewage at some times of the year. However, the sanitary condition of Butler is as good as in many cities of the same size, and the present epidemic cannot be attributed to this cause, but it certainly has spread faster, and is more difficult to control because of the imperfect sanitation.

The milk used by the city, at first thought to be the chief factor in causing the epidemic, after close analysis was found to be pure. A local creamery supplies four hundred gallons daily, which is pasteurized. This is a well organized plant conducted on modern plans. It has now been conclusively shown that the water—the only source that could cause such a sudden widespread epidemic during this season of the year—is the propagator of the infection. The south side of the city obtains its water from wells and very few cases of typhoid have occurred here.

The city water supply is taken from Conoquenessing Creek, a small stream running through the city. It is collected seven miles above the city, at Boydstown Dam, which has a capacity of 130,000,000 gallons. From this dam it is piped to a pumping station one-half mile above the city. It is then passed through a mechanical sand filter to a reservoir overlooking the city, which has a capacity of two million five hundred thousand gallons. The dam was swept away August 24, by a heavy rainfall. Then the water was piped directly from a dam above the station into the reservoir. This procedure giving inadequate supply, water was taken at times from Thorn's Run Dam, which is a dam in a little branch of Conoquenessing Creek. The water was not filtered for ten days in the latter part of October because of necessary repairs of the filtering plant. This wholesale pollution of the supply caused the overwhelming infection which became manifest during the latter part of October and the first week of November. At this time the water was shown chemically and bacteriologically to contain typhoid bacilli.

The probable contamination has been traced to a visitor suffering from the prodromes of typhoid fever in a family living two hundred feet above Thorn's Run Dam. This lady came to the city during July and one week after her arrival she went to bed and remained there for one month. Three cases of typhoid occurred in this family. The excreta of the family is said to have been thrown down a bank in the vicinity. The heavy rains of October and November would readily wash this excreta into the stream below. It has also been learned that there had been several cases of typhoid fever in a boarding house on the hill above the dam. However the stream may have been polluted originally, the prime factor in the causation of the epidemic is the failure in efficient filtration of the water supply.

The extent of the epidemic seems to be partly dependent upon: (1) The neglect of the citizens to boil all water used after having been warned by the health authorities; (2) The failure to make the conditions known to the public at an earlier date, the existence of the first cases being withheld because of the business interests of the city; (3) The large number of cases of the abortive type in the earlier part of the epidemic.

When the enormity of the epidemic was realized both city and state health officers took most active measures to check it. On November 25 Francis C. Phillips, Bacteriologist of Pittsburg, gave the following analysis of the city water: Total solids, 5; chlorin, 0.3; nitrogen in nitrites, 0.0; nitrogen in nitrates, trace; free ammonia, 0.001; albuminoid ammonia, 0.008; oxygen required, 1.15; bacteria per cubic centimeter, 58. No typhoid bacilli were found. Notwithstanding the negative report of the water analysis the absolute necessity of boiling all water used was made very emphatic by distributing posters, by the press, and by the profession.

In the early part of the epidemic the number of typhoid fever patients was distributed quite evenly over the city, excepting in that section using well water, which has already been specified. After the necessity of thorough disinfection was made known to the public by the profession and health authorities, the number of new cases in the better part of the city began to decrease, but there was no abatement in the district occupied by the foreign element. Consequently restrictive measures were directed toward the suffering among this population. The necessity for a relief association was now apparent and the citizens set about establishing one. This association is well organized with subcommittees in each ward, and has rendered most excellent service. It is estimated that one hundred thousand dollars will be required to do effective work throughout the epidemic; but as contributions are being received from every quarter of the state, funds will probably be ample. More than one hundred nurses are on duty, going from house to house under the direction of this association and altogether there are over two hundred at work in the city. Among these nurses there are some who served throughout the typhoid epidemic at Ithaca last year and Miss Gleason, who has done active army service in Cuba and the Philippines, is also an attendant. Food, clothing, laundrying, and medicine are being furnished to more than two hundred patients by this committee. Domestic help is most needed at present. Miss Clara L. Barton, leader of the Red Cross society, is now in the city doing active work.

The advantage of hospital service was soon recognized, and several dwellings and public buildings have been equipped for the care of the sick and are doing excellent work. Among these the City of Brotherly Love Hospital—formerly the Standard Hotel—is worthy of special mention. Doctor Johnson, of the Philadelphia Hospital, was delegated November 28 by Mayor Weaver, of Philadelphia, to investigate the epidemic, and by his recommendation twenty-five graduate nurses and three physicians, under the charge of Doctor Morris S. French, of Jefferson Hospital, were sent to Butler by the city of Philadelphia. He has equipped this hotel with all the necessaries of a hospital. Fifty typhoid fever patients are now getting sponge baths—for this is the hydrotherapy used—and much other service that could not be had by the poorer classes outside of the hospital.

The daily average of new cases of typhoid fever for November was thirty-five, with nineteen deaths during the month. The daily average of new cases for the first ten days of December was fourteen, with nineteen deaths. Doctor Wilbur Butt, State Quarantine Officer at Large, after taking the census of the city December 10, stated that he had reliable information that there had been one thousand two hundred ten cases of typhoid fever since the epidemic began, and thirty-eight deaths. The number of cases reported to January 16 is fourteen hundred twenty-five, with eighty-eight deaths—a mortality of over six per cent. The mortality of the Plymouth epidemic was ten per cent and of the late Ithaca epidemic six per cent.

The epidemic is being investigated by many excellent men. Among these are Doctor Friedrich, Health Officer of Cleveland; Doctor J. H. McClelland, of the State Homeopathic Board; Doctor Brown, President of Lehigh University, and Doctor Frederick Preiss, a typhoid fever specialist of Buffalo. Doctor Preiss would use the ozone method of purifying the water, that is, the passage of an electric current through it. After extensive investigation he states that water can be made absolutely germ free by this procedure and at less expense than by filtration.

LECTURES.

CLINICAL REMARKS ON SOME SURGICAL CASES.*

By HENRY O. WALKER, M. D., Detroit, Michigan.
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Reported by E. C. RUMER, M. D.
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RECURRENT APPENDICITIS.

Case I presents the usual characteristic features of a recurrent attack of appendicitis. The patient's history is as follows: W. H., fireman, aged thirty-seven years. Family history good. He had never had any illness until October, 1903, when he was taken with sudden diffuse abdominal pain, with nausea and vomiting and general tympanitic resonance. As the condition continued the pain was referable to the right iliac region, with evidence of a swelling in this locality. His physician diagnosed an attack of acute appendicitis. This attack prevented him from pursuing his vocation for about two months. In the latter part of January, 1903, he had another attack which lasted about eight weeks. His health was fairly good, except for pain at times in the right iliac fossa, until about ten days previous to December 7, the date on which he entered the hospital, when he was seen by Doctor Knapp, of Johannesburg, Michigan, and found to be suffering from another acute attack of the former complaint. The doctor withdrew all nourishment by mouth, putting him upon an exclusive rectal alimentation, placing ice over the region of the appendix and administering anodynes as indicated for the relief of pain.

As soon, however, as his condition would warrant the doctor brought him to the hospital, where examination confirmed the diagnosis, although the earlier symptoms of the attack had somewhat subsided, yet there still existed a certain degree of tympany and appreciable iliac rigidity, together with a marked uneasiness on pressure. It was also quite evident that there was a circumscribed tumefaction round about McBurney's point. The temperature at the time was 99° with a pulse of 80. The gradual retrogression of symptoms made it evident that an operation would be safer a few days later, and for that reason it was deferred until today. The treatment instituted by Doctor Knapp was continued until yesterday, when a high enema consisting of two drams of oil of turpentine and one ounce of sulphate of magnesia with sufficient warm water added to make a pint was given, causing a free evacuation. As he lies upon the table it will be observed that there is but little tympany, and the tumefaction is more easily discerned than when he was first seen. Undoubtedly this swelling has been present since the attack in January, an exudate walling off an abscess, and the recent attack being simply an exacerbation of the condition. It is a question whether this patient will ever have any better opportunity for operation than now. Experience has taught us many things since the first scientific removal of the appendix was performed. (1) That the death record from appendicitis left to nature—without operation—is about five per cent. (2) That the death record from operations in advanced acute attacks of appendicitis is about twenty per cent. (3) That the death record from operations performed for appendicitis within twenty-four hours of its onset is about one per cent. (4) That the death record from removal of the appendix in the interval or quiescent stage is about one-fifth of one per cent. If what has been stated is true, it follows that all cases of appendicitis should be operated upon at some time or other. It will be remembered that there are exceptions to all rules, and that it becomes a personal equation with the operator as to whether he shall operate or not. It should be the rule in advanced acute appendicitis to wait and follow the plan adopted by Ochsner of withholding cathartics or food via the mouth and order that feeding be accomplished by the rectum, performing the operation at a later period. Circumscribed abscesses in connection with appendicitis will have to be opened and drained, usually without further distubance of the abscess cavity.

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* Delivered at Harper Hospital, Detroit, December 12, 1903.

As has been stated, it will be found that when this patient is opened we will encounter a pus cavity. The length of incision will depend upon conditions, and in this case it is made about three inches or a little more as it will be necessary to cofferdam with gauze the swelling so that when the abscess is opened, infection will be precluded. You will notice that it is opened gently and mopped up as it presents. You will notice further that its consistency is thick like batter, showing that it has existed for a long time. The appendix, fortunately, lies within the abscess cavity, is friable and easily pulled away. No attempt will be made to close the opening into the cecum, which is small, and although there will be a fecal fistula it will soon close. Drainage will be necessary in this case, best applied by means of gauze covered with gutta-percha tissue. The incision is approximated with through-and-through silkworm sutures, leaving an easy space for the exit of the drain.

CARCINOMA OF THE SIGMOID FLEXURE—EXPLORATORY LAPAROTOMY.

Case II.—M. C., aged thirty-eight years, gives a history that his father died at fifty with diabetes and that his mother is still living, aged sixty-five years, and in good health. The other member of his family, a brother, is living and enjoys good health. The patient has always been well until April, 1903, when he had an attack which undoubtedly was appendicitis, confining him to his bed for ten weeks, and although he was able to be about afterwards, gaining considerable in flesh and strength, he was unable to attend to his usual occupation, that of a farmer. In the latter part of July he noticed a swelling in the left iliac region just within and above the anterior superior spinous process. The swelling increased in size, and several physicians examined him, all agreeing that he had an intraabdominal tumor, and he was advised to undergo an immediate operation, which he refused, hoping that he might recover without one. From this time he lost flesh rapidly, falling in weight from one hundred forty-five to one hundred ten pounds, and now has obstinate constipation. As he lies upon the table you observe that though a man of large frame he is emaciated and presents a cachexia indicative of malignancy. It requires no other sense than that of sight to discern a large swelling in the left iliac region, which on manipulation is nodular in feel and firmly immovable. To aid us still further in our diagnosis, a blood count has been made, showing that the red cells number only 3,150,000, with forty per cent of hemoglobin, while the white blood cells number 17,640. The moderate leukocytosis is probably due to an autoinfection rather than to inflammatory reaction.

It is pretty evident from the history and examination that this man has a malignant growth in the left iliac fossa. He has been under observation in the hospital for several days and I am satisfied that an operation will be useless and at first refused to perform one, but at the earnest solicitation of himself and friends I have consented to make an exploratory laparotomy. Incision through the median line reveals a mass involving the sigmoid and filling up the upper part of the iliac fossa, with metastatic involvement of the mesenteric glands, making any attempt at its removal useless. The occlusion of the colon is not sufficient to warrant performing a colostomy, as free evacuation of the bowels occurs after the administration of a mild cathartic. While he remains in the hospital he will be given whatever benefit is possible from the Roentgen rays.

The pathologist, after examination of a portion of the growth removed, states that it is carcinomatous, which by the way, is the most common form of malignancy of the large intestine.

CURETMENT, TRACHELORRHAPHY, AND PARTIAL RESECTION OF BOTH OVARIES.

Case III.—Mrs. H., aged twenty-six years. Patient's father and mother are both living at the ages of, respectively, forty-four and forty-three years, and are in poor health. This woman is the mother of three children, the youngest being two years, the oldest six. She has also had two abortions, the last in July of the present year. She began menstruating at the age of thirteen years, the function being painful and irregular. Since her children were born, however, she has menstruated regularly and the dysmenorrhea has been much less. Since the abortion in July she has had a profuse leucorrhea and has suffered from cystitis accompanied with dysuria. For the past four years the patient has suffered with severe pain over the region of the left ovary, a dull, aching pain in lower portion of back, and frequent attacks of pain in back of head. Aside from this she has suffered greatly from nervous exhaustion.

Combined vaginal and abdominal examination reveals the left ovary enlarged and prolapsed in Douglas's culdesac, and painful on pressure. There is a yellowish-white discharge from the uterus, and a bilateral laceration of the cervix. The perineum is practically normal.

It would be fair to judge from the ovarian pain and tenderness that we have to deal with a cystic condition of the ovary, and from the uterine discharge, a chronic endometritis. Our first step, then, in the way of treatment will be a thorough curetment of the uterus and repair of the lacerated cervix. Curettage, though seemingly one of the simplest operations in the whole domain of surgery, is in fact one of the most dangerous in the hands of the careless and inexperienced. There is probably no manipulation in surgery which requires more care and judgment than curettage. Among the contraindications to the procedure are ignorance of the operator as to the exact limits of the uterine cavity; the presence of the menstrual flow; extreme displacement of the uterus; and acute inflammations of the appendages. Among the indications are patients suffering from hemorrhage, acute or chronic infection of the endometrium, fungoid growths, et cetera. It is also performed to remove adventitious tissue for purposes of pathological examination. No matter for what purpose undertaken, rigorous antisepsis should both precede and follow the operation. In treating cases of this kind the sharp curet should be employed. Objection has been urged upon the ground that it destroys the epithelium, which is replaced by cicatricial tissue. This objection is not tenable unless the operation amounts to a practical endometrectomy, and it is here that the judgment which depends upon the tactus eruditus enables the operator to say when the diseased epithelium is removed to the normal tissue beneath. After the removal of the diseased mucous membrane the interior of the uterus should be thoroughly treated with a mixture of equal parts of tincture of iodin and carbolic acid and a small drain of iodoform gauze inserted which should be removed at the end of thirty-six or forty-eight hours. The repair of the cervix is accomplished by drawing it well down with a vulsella forceps. If not already done, the mucous membrane at the seat of the laceration should be vigorously curetted, and the mucus, blood and debris washed away, after which the surfaces to be approximated are denuded. This is accomplished either by knife, scissors or both, great care being exercised to remove all the cicatrical tissue, especially that at the upper angle of the wound. The two denuded surfaces are now approximated and sutured, preferably with silkworm-gut. The sutures may be introduced with a short curved needle inserted in a needle holder or by means of the obliquely-curved needle after the Carstens pattern. Lastly a sound is inserted to determine the patency of the cervical canal.

We will now turn our attention to the intrapelvic condition by making a short incision in the median line, low down, but high enough to escape the bladder, incising the skin, fascia, and muscles to the peritoneum, which we will elevate with forceps and incise. With the first and second fingers the ovary is delivered through the wound. As we predicted it is prolapsed, enlarged, and has undergone degeneration. But a short time ago, operators would have removed both ovary and tube. Better knowledge and conservatism, however, has taught us that this is not necessary or warrantable in many cases, but that a proper resection of the diseased portion results in a cure, and leaves sufficient healthy ovarian stroma for procreation. Therefore we will simply resect the diseased portion of this ovary, close the wound with catgut suture and replace it in the pelvic cavity. We will now deliver the right ovary in precisely the same way for inspection. As is ferquently the case, we find this ovary in the same condition as the left, and consequently we will subject it to the same operative treatment, replacing it as I did the other, in its former position. The abdomen is closed by absorbable suture, approximating the wound layer by layer.

OSTEOMYELITIS.

Case IV.—R. R., aged seventeen years. Patient's father and mother are both living and in good health. Eleven years ago he suffered from some disease of the bone of one leg necessitating surgical interference. What this condition was is not clear from the patient's statement. It probably has no bearing upon the present, except perhaps showing a predisposition to bone lesion. Aside from this and barring the ailments of children, the patient has always enjoyed ordinarily good health. The present illness dates from four weeks ago. Patient first suffered exhaustion, speedily followed by pain in right arm, at first vague and transitory as to location, but quickly becoming localized at a point outside the arm and just below the shoulder. It speedily grew worse—agonizing and boring in character. With the increase in pain there was more and more general tenderness, which became exquisite, followed by redness and general swelling of the affected parts. A physician who was called incorrectly construed the condition as rheumatism and prescribed accordingly. This treatment was continued until patient entered the hospital four days ago.

At the time of admission, his temperature registered 100.8°, pulse 120. While the acute pain had somewhat subsided, he still suffered acutely. There was a well-marked hard swelling,—just beneath the shoulder,—which was extremely tender to the touch. Besides this condition there was characteristic muscle spasm, requiring the patient to assume certain postures, thereby relieving tension, any disturbance of these postures causing severe pain. Added to this were the signs of autointoxication coincident with the general constitutional disturbance. In fact all the signs denoted an acute inflammatory condition. A diagnosis of acute osteomyelitis was made and an operation advised. You will observe as the patient is prepared for operation that the arm is fusiform in shape at the point of swelling, with a feel of bogginess, indicating that there has been an escape of pus from the bone canal, which is corroborated by the subsidence of the violent boring, aching pain.

By making a free incision down through the periosteum to the bone, the presence of pus is manifest. Further examination reveals separation of the periosteum from the bone and no difficulty is experienced in introducing a groove director through into the necrosed cavity of the bone. By means of a chisel we have made a gutter that permits of free curetting of the medullary canal. The after treatment will consist in drainage and daily cleansing. This case is fortunate in that the disease is localized and does not involve other medullary canals as is too often revealed, especially in young children. As we have no history that this young fellow received an injury or had been exposed to sudden heat or cold, the causative pyogenic organisms must have entered the circulation through the lymphatics from a source of suppuration either in the skin, mucous membrane, or deeper tissue. It is difficult to say just whence these organisms come that infect the marrow of the bone. Early recognition of this difficulty is important that we may prevent extensive destructiveness. Had this patient been treated early by a free opening, the conditions that are present would have been obviated. Pus cavities either in bone or other tissues (excepting possibly in the abdomen) are best treated by filling them with pure carbolic acid, allowing it to remain for a minute or two when it is gently mopped out and the cavity filled with pure alcohol. The alcohol destroys both escharotic and poisonous effect of the acid.

REMOVAL OF BOTH LONG SAPHENOUS VEINS FOR THE RELIEF OF RECURRING ULCERS OF THE LEG.

Case V.—Mrs. H., washerwoman, aged forty-four years, has had recurring ulcers of both legs due to varix, for the last twenty years. Previous to each recurrence there would be an eczema. This woman has been in the hospital for some time and confined in bed with the legs elevated, alternately treated by strapping, the application of an elastic bandage, nitrate of silver and other medications, and still you observe the ulcers, which are gradually healing, however, and in all probability would heal if given time, yet as soon as she gets upon her feet again to pursue her vocation the return of the ulcers would be certain. Varicose veins are due to their valvular insufficiency, growing more prominent with advancing age. Many people who have varicose veins have no discomfort, while others have untold agony from them. Martin's elastic bandage is a temporary expedient, that is, it compresses the superficial veins so that return circulation is carried on by the deeper plexus. If the bandage gives relief while applied, why not do something more radical and give permanent relief, that is, make an entire resection of both the external saphenous veins.

Many methods of obliterating the vein have been suggested and performed, namely, interval ligation, interval resection and a circular cut as devised by Schede. Our patient has had the most rigid antiseptic preparation as it is extremely important that no infection should occur. Commencing on the right leg an oblique incision approximating two inches in length is made about three inches below the saphenous opening, giving a fine oportunity to secure the vein, which is tied well upwards. Another incision is made in the same manner as the first, from four to six inches below, and by blunt dissection with the fingers and a Kocher's dissector the vein is lifted from its bed beneath the integument. The same procedure is continued to the ankle if necessary, when the vein can be removed in its entirety. Finally, a circular incision is made through all the superficial veins over the greatest prominence of the calf of the leg, not exceeding two-thirds of the circumference, when the incisions are closed with a continuous silkworm-gut suture. The other leg is treated in a like manner, and both legs are covered with a liberal dressing of gauze and absorbent cotton well above the groin on each side. The after treatment consists in keeping the legs on an inclined plane for several days. You will observe that we cut out the ulcers of both legs as a part of the operation, dissecting up the edges so as to approximate them as near as possible without having to resort to future skin-grafting.

TENDOPLASTY.

Case VI.—Mrs. F., aged thirty-six years, received, several weeks ago, a severe cut across the palmar surface of the fingers of the left hand. The wound healed kindly, but she is unable to flex the first joint of the third finger, showing that the flexor tendons were severed and did not unite. An attempt will be made to dissect out the severed ends and approximate them with suture.

After considerable effort the ends, ragged in character, have been liberated, yet not sufficiently to approximate accurately, and therefore it will be necessary to use several strands of small catgut that they may act as a lattice work for the building up of interval connective tissue material, and cover them with approximated fascia and integument. The finger is now dressed and placed upon a splint to keep it in the position until union and new tissue-formation occurs.

ADDENDA.

In looking over the hospital charts of the above cases we find that—

Case I (Recurrent Appendicitis) left the hospital December 30. At no time did the temparature rise above 100°, and for but three days was there any fecal discharge. When patient left there was only a small superficial granulation.

Case II (Carcinoma of the Sigmoid Flexure) left the hospital

December 29, with no improvement, the tumor having gradually increased in size.

Case III (Curetment, Trachelorrhaphy, and partial Resection of both Ovaries) left the hospital December 26, with an entire subsidence of all previous symptoms.

Case IV (Osteomyelitis) left the hospital December 23, with a small healthy granulating wound.

Case V (Removal of both Long Saphenous Veins for Relief of Recurring Ulcers of both Legs) was discharged from the hospital January 17, 1904, with wounds all healed and a marked general improvement. This has been our experience in a large majority of cases that we have operated upon in this manner.

Case VI (Tendoplasty) was discharged December 25, with a slight evidence of the return of flexure.

TRANSACTIONS.

CLINICAL SOCIETY OF THE NEW YORK POLYCLINIC MEDICAL SCHOOL AND HOSPITAL.

STATED MEETING, NOVEMBER, 2, 1903.

THE PRESIDENT, JAMES HAWLEY BURTENSHAW, M. D., IN THE CHAIR.
REPORTED BY JOSEPH A. ROBERTSON, M. D., SECRETARY.

READING OF PAPERS.

DOCTOR FREDERICK H. DILLINGHAM read the paper of the evening, which was entitled "Alopecia Areata." In part it is as follows:

Alopecia areata should only be used to designate a disease where the hair falls out in one or more patches which increase in size by spreading at the periphery and leave a bald area without any apparent inflammation of the skin. In a majority of cases the disease is confined to the scalp, and after the hair stops falling out the patch may remain stationary or new hairs, which are usually at first fine lanugo hairs, appear at the margin or in the patch. While the disease is progressing the hair at the margin is loose, with atrophied roots, and can be easily pulled out. The skin shows no signs of inflammation, is smooth, shiney, and slightly depressed. There has been a great difference of opinion as to the etiology, some claiming it to be a trophoneurosis and others parasitic. There is no question but that there are a number of cases of alopecia occurring as the result of shock or injury to a nerve, but they do not have the definite clinical history that characterizes alopecia areata and should not be called such, but designated as alopecia neurotria. Simply because an area is devoid of hair it should not be called alopecia areata.

The manner of spreading at the periphery, the inflammatory process in the corium, the fact that the loss of hair does not follow a nerve distribution and the number of epidemics reported seem to be conclusive evidence that the disease is parastic and slightly contagious under favorable conditions. Although a number of different organisms have been found, none of these have been proven to be the cause of the disease.

Salourand claims it is caused by the same bacillus that is found in seborrhea but it is also present in comedones of acne. He also claims that it only occurs after puberty, which does not explain the many cases in children. Crocker and Hutchinson believe it to be related to ringworm, but there is no proof.

The disease which will cause the most difficulty in diagnosis is ringworm of the scalp, in which the patch is inflamed, the baldness is not complete, and there are characteristic, short, broken-off hairs, with short ends. In doubtful cases the microscope will decide. In favus the yellowish crusts, incomplete baldness, inflammatory symptoms and atrophy will enable one to make a diagnosis.

The prognosis is almost always good if the disease has not lasted long enough to destroy the hair follicles. If acne has been properly treated for two months and there are no lanugo hairs, the chances are that the hair follicles have been destroyed and there will be permanent alopecia.

If there is any defective condition of the general health, it should be corrected, but aside from this, internal treatment is useless. Besides a large number of drugs, Roentgen rays, Finsen light and radium have been used. Chrysarobin will give the best results in most of the cases, but it should not be used on the face or over too large a surface at one time. It is best employed with vaseline, fifteen grains to the ounce, and it is well not to use too strong a preparation at first. We aim to produce a mild dermatitis in order to obtain the benefit of the emigration of the white blood corpuscles and destruction of the organisms. The preparation should be thoroughly rubbed in with considerable friction every night for a week and then discontinued in order to ascertain if the disease is still progressing. After the alopecia has stopped spreading, stimulating applications with massage should be used to bring an increased blood supply to the part and aid in the nutrition of the new hair.

RUPTURE OF THE URETHRA.

Doctor Charles H. Chetwood: This boy, nine years old, fell astride the edge of a barrel. The accident was immediately followed by swelling and ecchymosis of the perineum and scrotum, which extended down the inner side of the thighs. On examination the bladder could be felt slightly distended toward the brim of the pelvis. Gentle effort to introduce a soft rubber catheter was unsuccessful. The diagnosis was complete or incomplete rupture of the urethra. The patient was anesthetized, but it was impossible to gain entrance to the bladder through the urethra. Perineal section was then performed. The distal end of the tube was found without difficutly, but not until the perineal opening was distended with boric acid solution was it possible to distinguish and grasp the proximal end. The ends were sutured together and a small catheter introduced through the perineal wound. Three days later the catheter was removed and the patient urinated without trouble. Twenty-four hours later, under anesthesia, a catheter was passed through the meatus into the bladder and tied in position for three days. At the end of two weeks cure was complete.

PROSTATIC HYPERTROPHY AFTER GALVANO-PROSTATOMY (CHETWOOD).

DOCTOR CHETWOOD: This man is sixty-three years old, and a pedler by occupation. His principal complaint had been that he was compelled to urinate at least every half hour, day and night, which was accompanied and followed by considerable pain. Urinary symptoms of that character, occurring in a man of such age, would naturally suggest prostatic hypertrophy, causing vesical insufficiency and cystitis. The examination of this patient bòre out this hypothesis. While the prostate proved to be only moderately enlarged, the bladder contained seven ounces of residual urine, and the Thompson searcher, introduced into the bladder, recognized an obstruction at the urethral orifice in the nature of a bar. Operation was performed on February 27, 1903. Perineal section, followed by digital examination of the bladder showed a tight vesical orifice, an elevated and hypertrophied median fold and a deep bas fond. This bar was incised with the galvanocautery instrument in two places, each being three-quarters of a centimeter in length, forty-five seconds being allowed for each cut. A perineal tube was then introduced and left in place for five days, at which time it was removed and in a few days the patient began to urinate through the natural channel. He was pronounced cured in three weeks. Summing up this method of operating, it may be said that it is essentially one of drainage, the aim being to effect, as nearly as possible, the reestablishment of the normal condition of bladder drainage, with the minimum amount of risk, the greatest dispatch, and without removing more of the prostate gland than is necessary in order to accomplish this purpose.

TWO CASES OF SKIN DISEASE.

DOCTOR VICTOR C. PEDERSEN: I desire to report two interesting cases of skin disease, one of scaling papulosquamous syphilide, some of the lesions of which resemble psoriasis; and the other a generalized nummular psoriasis, strongly suggesting syphilis at first sight. The histories of the patients are as follows:

Case I.—A male, twenty-two years old. Eight months ago patient had a chancre, which left behind the typical indurated scar on the prepuce. Nearly three months afterwards a rash appeared on the skin and the man consulted a physician, who prescribed antisyphilitic remedies, which were taken in an irregular manner for a short time, resulting in a more or less complete disappearance of the rash. About three weeks prior to his appearance at the New York Hospital, about the middle of October, an outbreak occurred with greater virulence and wider dissemination. When first seen at the New York Hospital he presented a generalized papulosquamous scaling rash all over the body. Some of the lesions, especially near the elbows and shoulders, were so large and the scales so profuse as to strongly suggest psoriasis. Differential diagnosis was made by the presence of typical mucous patches in the mouth and typical lesions of syphilis on the palms of both hands and soles of both feet. Tonics, mercurial inunctions and ascending doses of iodid of potash in about three weeks caused practically all of the small lesions to disappear and only the large ones remained. The character of these larger lesions is still somewhat suggestive of psoriasis, and the case is presented for its interest, and for differentiation by the members of the society between the two diseases.

Case II.—A male, twenty-four years old. About five weeks before he applied for admission to the New York Hospital, Out-Patient Department, a generalized scaling rash appeared all over his body. In this case the lesions were frankly those of psoriasis, but resembled those of syphilis somewhat in being comparatively small and in being scattered everywhere over the body excepting on the soles and palms. The diagnosis was made through the absence of sole and palm lesions and of lesions in the mouth, and likewise by the distinctly psoriatic condition of the backs of the hands. Three weeks of treatment had caused the scaling to practically disappear, and the color of the underlying skin had assumed a much more healthy appearance. The treatment had been simple, consisting in simple diet and regular physical exercise and ascending doses of Fowler's solution of arsenic, with chrysarobin ointment, about ten per cent, applied to small areas of the body in turn, from night to night, and ten per cent boric acid ointment applied to other parts of the skin to keep the scales as soft as possible.

DISCUSSION.

DOCTOR FREDERICK H. DILLINGHAM: With regard to Case I, I think most of the lesions are syphilitic. On the patient's back are a large number of lesions which are undoubtedly syphilitic, and those on the front portion of the body resemble these, but in syphilis there is atrophy or loss of tissue. Sometimes the lesion is too small to be recognized with the naked eye, but if there is loss of tissue, it cannot be psoriasis. It leaves the skin perfectly normal, except often pigmentation disappears. The speaker made a diagnosis of syphilis and psoripheral eczema of the scalp.

DOCTOR EDWARD L. KEYES, Junior: The case reminds me of a patient, about twenty years of age, who came to me with psoriasis all over his body. The case was supposed to be psoriasis, as the lesions were characteristic, and although the question of syphilis was mentioned, there was no history and no evidence of a primary lesion. More psoriatic lesions appeared, characteristic ones of the palms of the hands and soles of the feet. This seemed to point to syphilis, and the patient was put on mercury and the lesions promptly disappeared.

DOCTOR PEDERSEN: I brought the patient before the society because, three weeks ago, when I first saw the man, he was put on syphilitic treatment and the improvement was marvelous. This morning, however, a colleague at the New York Hospital and myself failed to agree on the diagnosis, I considering it syphilitic and my colleague claiming that the patient presented a combined lesion.

SUBPHRENIC ABSCESS.

Doctor John A. Bodine: This patient, a man, thirty-five years old, came to me with a history of pneumonia, occurring six weeks before. The disease kept him in bed for thirteen days, and he had been up and about for eight days, when pain and fever returned. He was referred to me with a diagnosis of encysted empyema. Sweating, emaciation and septic facies were present, and on the right lower side of the chest there was a well-marked bulging. Respiratory signs were absent in this locality. To verify the diagnosis, a hypodermic syringe was inserted in the upper part of the bulging mass, between the seventh and eighth ribs and pus was withdrawn. A section of one and one-half inches was made in the ninth intercostal space, care being taken not to go through the diaphragm. There was no pus, but the liver and diaphragm could be felt intervening. The needle was inserted again, between the seventh and eighth rib, and pus was withdrawn. A second incision was made at this point, and when the pleura was reached six or eight ounces of clear serous fluid was found. When the finger was inserted into the second opening a dome-shaped mass was found rising over the liver. The lower border of the lung was defined and a fluctuant subdiaphragmatic abscess diagnosticated. The diaphragm was incised with a knife and eight or ten ounces of pus withdrawn. A drainage tube was carried through the lower wound. The fever has entirely disappeared and the patient is on the road to recovery.

DISCUSSION.

Doctor Morris Manges: To make a positive diagnosis in these cases is impossible. Absence of pneumococci might have given the clue to the origin of the subphrenic abscess. There is no part of the body in which one is more liable to err than in the lower portion of the pleural cavity in the recognition of fluid. There is nothing which fluid cannot simulate. It was Leyden who pointed this out in 1887, and gave to it the name pyothorax subphrenicus. Since then a number of cases have been reported as secondary to pneumonia, but in such cases pneumococci are usually found in the pus from the subphrenic abscess. Another condition which makes differential diagnosis difficult is abscess of the liver as differentiating this same condition from secondary effusion into the pleural cavity. In almost every case one finds the localized point of tenderness over the liver, and this indicates where the aspirating needle should enter. In abscess of the liver the dullness and flatness is higher in the axillary line than it is anteriorly, and respiratory conditions are present which are absent in empyema.

UNITED COMPOUND FRACTURE OF THE TIBIA.

Doctor Lester L. Roos: I desire to present a patient who, four weeks ago, fell in the street. Examination revealed a compound fracture of the tibia, with two simple fractures of the fibula. The patient is sixty-seven years old, and has suffered from locomotor ataxia for eighteen years. For twelve years he was treated with silver nitrate. Four weeks after the accident there was no sign of healing in the fractures. The external wounds had become gangrenous. During my hospital experience I have seen three cases of locomotor ataxia with fractures of the leg, and all three patients were confined to bed for four, five and six months, without any union resulting, and finally amputation had to be resorted to. From lying in bed for four weeks the patient was developing paresis of the bowels, and movements were induced with difficulty. Catheterization was necessary to draw urine at all. There was not even fibrous union in the fractures.

DISCUSSION.

Doctor William B. Pritchard: There is no arbitrary rule for union in such cases. Sometimes it is impossible to obtain union, and in other cases the results are unexpectedly good. This kind of fracture is not peculiar to locomotor ataxia, but often occurs in connection with pheripheral neuritis and with multiple neuritis, and takes on exactly the same characteristics. The bones are friable, partake of the general trophic disturbance, easily fracture, and show resistance to union. These fractures do well, unless complicated. If simple, there is no external disturbance of the circulation.

ORIGINAL ABSTRACTS.

MEDICINE.

By GEORGE DOCK, A. M., M. D., Ann Arbor, Michigan.
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PNEUMOCOCCUS PERITONITIS.

Max von Brunn (*Beitraege zur klin. Chir.* Band XXXIX, page 57) has made a very thorough study of this disease, based upon two original cases and seventy-two reported in the literature. In all these cases the diagnosis was confirmed by finding the pneumococci. The author also discusses a few cases reported as pneumococcus peritonitis, but in which the determination of the germ was not complete.

Pneumococcus peritonitis is a relatively rare disease, though the chance of infection from pleuropneumonia must be rather common. Primary cases are more rare than such secondary cases. Next to pneumonia, bronchitis and pleurisy, middle-ear disease is an important primary source. Even in the case of pleuropneumonias, infection of the peritoneum can take place through the blood, and that by the lymph tract seems less frequent. In primary cases the gastrointestinal canal furnishes a possible source, while in some cases the female genital tract may take part. The author, however, looks on this as unlikely, and thinks pneumococcus infection of the Fallopian tubes is more likely to be due to germs in the abdominal cavity than from below. Predisposing causes for the peritonitis can rarely be found, variations in the virulence of the germs giving the most likely explanation.

The anatomic picture of the disease is striking. The exudate is usually more or less thick and creamy, of greenish or greenish-yellow color. Hemorrhages sometimes occur. There is usually no odor, but at times there is a fecal odor due to colon infection. The quantity of exudate is sometimes enormous. As is usual with pneumococcus exudates, it contains much fibrin. In consequence, adhesions soon form, binding the abdominal organs down and protecting them against extension of the disease. The intestines may be buried in a mass of false membrane, leaving their serosa smooth. Rarely is the exudate free in the general peritoneal cavity. In some cases it lies between the omentum and the anterior wall. Though complications in the abdominal organs are rare, there may be foci in the lungs, either lobar or lobular, in the pleura, meninges, pericardium or endocardium, or middle ear. Joint and subcutaneous localizations are rarer. In some cases pneumococcus peritonitis is part of general sepsis. Sometimes the exudate is less extensive, or there may be little or none, such cases representing the most severe infections, in which the end comes before reaction can occur.

The clinical picture is most marked in children, in whom it is most frequent. Fifty-seven of the seventy-four cases were in persons below fifteen years. There is sometimes a prodromal stage, usually with signs in the lungs, bronchi or pleura, but often, without these, the first signs are those of severe peritonitis. Fever is usually high, pain severe, sometimes localized, sometimes all over the abdomen. The pain may be colicky, or continuous, or intermittent. Vomiting is almost constant, sometimes lasting for days. There may be diarrhea, with or without blood in the stools. Constipation is rare. The severe symptoms last only a few days. Then the fever and vomiting lessen, the pain becomes less severe or becomes localized, and a chronic stage follows that may last many weeks. The improvement may be so marked that recovery is simulated, or complications may mask the abdominal condition until some such process as perforation at the umbilicus occurs. Usually abdominal signs can be made out, such as meteorism and free or sacculated fluid. Encapsulated exudates often form between symphysis and navel, or in the navel region, but may form in the subphrenic space or the iliac fossæ. Often the abscesses extend into the true pelvis and cause severe local symptoms, such as tenesmus of the bladder. Notwithstanding extensive purulent exudates, the temperature may be normal or only slightly elevated, though septic curves may sometimes be seen. The absence of fever, like the absence of tenderness on pressure, may lead to great difficulty of diagnosis in the chronic stage. Spontaneous opening of the exudate sometimes occurs, usually in or around the navel, and is more frequent than in tuberculous peritonitis. In adults the course of the disease is usually like that of ordinary purulent peritonitis or septicopyemia.

The diagnosis may present difficulties from the resemblance of the early stages to those of typhoid fever and appendicitis. In the chronic stage tuberculosis presents the greatest difficulty. Besides the special symptoms of the various diseases, the differential diagnosis can be assisted by recognizing the acute peritonitis, followed by evidences of local exudate. It is rendered more probable when the patient is a child, especially a girl, and when signs of pointing occur near the navel region, and when puncture reveals a greenish yellow, odorless pus. Bacteriologic diagnosis is of course essential.

The prognosis is relatively good in children, if an operation is done in time. Out of fifty-seven children, laparotomy was done in fifty. Of these, ten died. In adults, the prognosis is as unfavorable as in other kinds of peritonitis. Spontaneous recovery has not been observed in adults.

The treatment consists in laparotomy with drainage. Even in general peritonitis of pneumococcus origin recovery has followed operation in two cases.

G. D.

SURGERY.

By HENRY O. WALKER, M. D., Detroit, Michigan.
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AND
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THE OPERATIVE TREATMENT OF CHRONIC BRIGHT'S DISEASE: A SECOND COMMUNICATION BASED ON REPORTS OF ONE HUNDRED AND TWENTY CASES.

Ramon Guiteras, New York (*New York and Philadelphia Medical Journal,* November 7 and 14, 1903). The article is based upon the replies to one hundred fifty letters of inquiry, addressed to various surgeons, who expressed themselves about equally for and against the operation.

The following questions are discussed:

What is chronic nephritis?

In what does the operation consist that is supposed to cure or relieve it?

The arguments pro and con as to this treatment.

The symptoms which have led the various surgeons to operate.

The results which they have obtained from the procedure.

Chronic nephritis means inflammation or degeneration of the blood-vessels, the interstitial tissue, glomeruli, or the epithelia lining the tubules of the kidneys. Both kidneys are always affected but not to the same degree. An examination of the reports of five hundred autopsies for chronic Bright's disease showed both kidneys involved in all cases. Movable kidney may give the usual symptoms but is not true Bright's disease, the symptoms disappearing when the kidney is fixed.

Pousson noticed a sympathetic relation between the kidneys, an operation on one frequently relieving congestion in the other.

Two kinds of operation are advocated. One is partial decapsulation of one or both kidneys and suturing the capsule propria to the abdominal wall. The other consists in removing the capsule propria and placing the kidney in the fatty capsule. Ferguson punctures the kidney after decapsulation. Other operators make incisions and leave them open for drainage. Hemorrhage rarely causes annoyance, although Rockey, of Portland, was obliged to remove the kidney to prevent fatal hemorrhage. The size of the kidney gives little indication of its condition unless it is small. The removal of a V-shaped piece from the kidney, as introduced by Ferguson for diagnosis, is advised.

An argument for operation is that the circulation of the kidney is increased by anastomosis with tissues of the abdominal wall and capsule. New epithelia are formed to carry on the function of the organ. Experiments on animals are opposed to this statement, however. Not only is the blood supply not increased but the destroyed capsule may regenerate and contraction still further limit the blood supply of the organ. This may account for some of the fatal terminations two or three months after the operation. While the patient is comfortable, the operation should be delayed, but when the heart is overtaxed and the process is advancing rapidly, it is time to operate.

The symptoms given by the various surgeons which lead them to operate are too many to mention. Nearly all cases had uremic symptoms and edema, while a number had general anasarca. Those having uremic symptoms and chronic edema, should be operated upon when medical treatment fails. It is difficult to decide the question of operation in bad cases, as fifty per cent die and only twenty-five per cent are improved or cured. When the patient is passing little urine or none at all, operation is imperative. The most favorable cases are those of movable kidney with nephritis, the most unfavorable are those with chronic diffuse nephritis.

Results.—Favorable cases recover and are in perfect health for months or years after operation. The urine may return to a normal condition or be only slightly improved. In movable kidney only the displaced organ should be operated upon. Statistics of one hundred twenty cases show sixteen per cent cured, forty per cent improved, eleven unimproved, and thirty-three per cent deaths. Death after operation may be due to exhaustion, uremic coma, edema of the lungs, acute dilatation of the heart, or myocardial thrombosis. The operation is new and requires modification. Further experience may remove the danger to a great degree.

Conclusions.—Chronic nephritis should not be operated for, until medical treatment is of no avail. It is time to operate when the process is advancing rapidly, and fear is entertained that the heart will soon be overtaxed. The operation which has proved least dangerous and given the best results is nephropexy, performed on a single movable kidney. Cases of general anasarca with a bad heart action should not be operated upon; if the heart action is good an operation performed as a dernier resort may give the patients a few extra months of life provided they survive it. When there has been a marked destructive process in the kidneys as a result of a nephritis, the operation may relieve them for a number of weeks or months, but they generally fail again and die when the new capsule begins to contract.

GYNECOLOGY.

By REUBEN PETERSON, A. B., M. D., Ann Arbor, Michigan.
PROFESSOR OF GYNECOLOGY AND OBSTETRICS IN THE UNIVERSITY OF MICHIGAN.
AND
CHARLES LANPHIER PATTON, M. D., Ann Arbor, Michigan.
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A NEW TREATMENT FOR DYSMENORRHEA.

Emil Ries, M. D., Chicago (*American Gynecology*, October, 1903). Dysmenorrhea is often caused by factors not explained by local findings in the sexual organs. The etiology of this condition is very unsatisfactory, as is the therapeutics. Cases of dysmenorrhea amenable to successful operative treatment are comparatively few and belong to well-defined classes with distinct pathologic changes; as, cases caused by congenital or acquired malformations; by submucous fibroids; or by inflammatory disease of the appendages. In other cases, the disease persists, even after various operations upon the genital organs.

This new treatment was suggested by Fleiss, a rhinologist, to the Berlin Obstetrical Society in 1897. A series of experiments convinced him that certain forms of dysmenorrhea, not relieved by the onset of the menses, were dependent upon changes in the nose and that they could be cured by the correction of these nasal conditions.

There are certain spots in the nose, which he calls genital spots, situated at the anterior end of the inferior turbinated bones and spots on the septum opposite these. At menstruation these areas increase in size and sensitiveness, bleed easily and are more or less cyanotic.

In certain forms of dysmenorrhea, which he calls nasal dysmenorrheas, the pain disappears immediately upon the application of two or three drops of a twenty per cent cocain solution to these spots. Both the inferior turbinated and the spots on the septum should be cocainized. Cauterization of these spots yields the same results. Experiments have been carefully performed, using sterile water and different inactive solutions, to exclude the possibility of suggestion causing a cure. Several men have reported excellent results from this treatment. Doctor Ries, himself, has tried this in four cases with good results. He advises further experimentation along this line. All cases of dysmenorrhea are not of the nasal class and therefore all cases will not react to the treatment. C. L. P.

PEDIATRICS.

By ARTHUR DAVID HOLMES, M. D., C. M., Detroit, Michigan.

PROFESSOR OF PEDIATRICS IN THE MICHIGAN COLLEGE OF MEDICINE AND SURGERY.

ACUTE GASTROENTERITIS.

According to Hutinel (*Interstate Medical Journal*, September, 1903) there are three therapeutic indications for the treatment of acute gastroenteritis occurring in infants: (1) remove the source of the poisons which form in the intestine; (2) prevent the pathogenic germs in the intestinal tract from finding a favorable culture medium; (3) restore to the body the water it has lost. All these conditions can best be met by the withdrawal of all food and the administration of sterile water alone. If there is much vomiting the water should be given cold; if there is algidity it should be given hot, and in cases wherein gastric lavage is indicated and thrush is present a mild alkali may be added to the lavage water. The author relies upon small doses of calomel and castor oil for intestinal antisepsis. Colonic flushings with normal salt solution are often valuable and when there is a tendency to collapse hypodermoclysis of salt solution should be given and the return to food should be very gradual.

OPHTHALMOLOGY.

By WALTER ROBERT PARKER, B. S., M. D., Detroit, Michigan.

CLINICAL ASSISTANT IN OPHTHALMOLOGY IN THE DETROIT COLLEGE OF MEDICINE.

THE OPERATIVE TREATMENT OF GONORRHEAL ULCERATION OF THE CORNEA.

Goldzreher (*Bericht der Paster Med. Chirurg Presse*) reports two cases of gonorrheal ulceration of the cornea which went on to perforation treated by covering the wound with conjunctival flap. The upper portion of the conjunctiva was dissected away up to the fornix, threads passed in and then this flap brought over the ulcerating area and secured. The cases were similar except in one case the flap was taken from above, in the other from below. The result in both cases was good. He advises not to wait for perforation but as soon as it looks as though perforation were imminent the plastic operation should be done.

CAUSES AND PROGNOSIS OF SUDDEN BLINDNESS.

George W. Van Benschoten, Providence (*Providence Medical Journal*, July, 1903), enumerates the following affections: Embolism of the central artery of the retina, or thrombosis of a vein. Blindness comes on instantaneously, is almost invariably macular, and if the embolism is complete, is absolute. If only one of the branches of the artery is occluded, the complete loss of vision is only momentary. Upon examination an anemic retina is found with small and empty arteries. The veins are lessened in calibre, and the blood stream stationary in peripheral vessels. The nerve head is pale. Thrombosis of the veins present opposite appearances.

Hemorrhage into the retina and vitreous is the most frequent cause of sudden partial loss of vision. The latter varies with the size and location of the clot. In small hemorrhages rápid improvement may follow complete blindness. Violent physical exertion is the usual cause, and weakened blood-vessels (atheroma, Bright's disease, et cetera) the predisposing factor. Diffuse haziness of the vitreous offers a worse prognosis than small hemorrhages with a clear one.

Copious loss of blood may cause sudden blindness which not infrequently presists. The prognosis is better when the blindness comes on at once than when several hours or days intervene. In the latter case optic atrophy is common.

Uremia is a cause of blindness that is usually binocular. The vitreous may appear normal while retinal hemorrhage and other signs of albuminuric disease appears.

Spasms of the retinal vessels with blanching (commotio) of the retina causes sudden blindness, which is nonocular, traumatic, not complete, and followed by prompt restoration of sight in a few minutes or hours.

Detachment of the retina or further detachment of an already loosened retina may cause sudden blindness.

Sudden blindness from hysteria is rare. It usually develops gradually with a concentric, progressive narrowing of the visual field.

Sudden blindness occuring during the course of an acute infectious disease is rare and may usually be traced to uremia or nephritis. Possibly it is sometimes due to the administration of drugs.

LARYNGOLOGY.

By WILLIS SIDNEY ANDERSON, M. D., Detroit, Michigan.
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CICATRICIAL DEFORMITIES IN THE RESPIRATORY TRACT DUE TO CAUSES OTHER THAN SYPHILIS AND TRAUMATISM.

G. Hudson Makuen (*Laryngoscope*, October, 1903) has made a study of the causes, and briefly gives the statistical results obtained from about three hundred laryngologists to whom he wrote. There were four hundred forty-nine cases reported. The nostrils were involved three hundred forty-seven times, the pharynx was involved eighty-seven, the larynx fourteen, and the trachea one.

Thus we find that three hundred observers have seen four hundred forty-nine cases of cicatricial deformities in the respiratory tract that appear not to be due to syphilis or traumatism, and that sixteen per cent of these were caused by diphtheria, eight per cent by scarlatina, three per cent by lupus, one six-tenths per cent by tuberculosis, one five-tenths per cent by scarlet fever and diphtheria combined, one one-tenth per cent by typhoid fever, five-tenths per cent by measles. Other causes in the nostrils are membranous rhinitis, catarrhal erosion, smallpox, scleroma, septal abscess, erysipelas and pemphigus.

TUBERCULAR LARYNGITIS DURING PREGNANCY AND LABOR.

N. Godskesen (*Archiv, für Laryngologie*, Band XIV, Heft 2) gives a brief history of forty-eight cases gathered from various sources. According to the author this affection is not very uncommon and is very fatal both to the mother and child. Abortion is advised if seen early, or if actively progressing. Late in pregnancy a high tracheotomy is advised. Local treatment should be mild and such as is calculated to allay the patient's suffering.

NEUROLOGY.

By DAVID INGLIS, M. D., Detroit, Michigan.

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RECENT SUGGESTIONS REGARDING REFLEX NEUROSES

The reflex nervous and mental affections set up by irritation in the female genital organs have been made prominent, of late years, by our friends the gynecological surgeons. A good thing, even if it is overdone, once in a while.

Probably not enough attention is habitually given to similar conditions in the male. This may, in part, be due to the resolute determination which men show, to keep their apparatus, even if somewhat damaged. Nevertheless the reflex processes are alike in both sexes and we cannot afford to overlook them.

Sanger Brown, in the *American Journal of the Medical Sciences*, January, 1904, in an article on the "Medicolegal Aspect of Chronic Delusional Insanity," details an unmistakable case of this form of mental defect. While legal proceedings were pending a large and painful hemorrhoid was removed. Patient had been afflicted with piles, more or less, for years. On recovering from the anesthesia his delusions had vanished and up to the present time have never reappeared. Verbum sat.

Ravogli, of Cincinnati, publishes, in the *Medical News*, of December 26, 1903, an article on the "Reflex Eruptions of the Skin from Morbid Alterations in the Male Urethra." The article is valuable within its own limits, but is also valuable for its suggestions. He says, first, in regard to relapsing herpes of the pudenda, "Gradually I have adopted the system of making a thorough examination of the urethra and from a large number of patients, who have applied for treatment of herpes progenitalis, I have found in every case a condition of chronic posterior urethritis with all its complications." Of more practical importance is his discussion of pruritus of the anus, perineum and scrotum.

That some of these cases are simply eczema, to be regarded just as a localized eczema is regarded on any other part of the body, is true, but the marvelous obstinacy of some of these cases makes the argument of Ravogli worth careful attention. He claims that, in many cases, the cause of the pruritus lies in a chronic irritation of the posterior urethra or in the prostate, and that until this is cured all local remedies fail to cure—only alleviate.

The suggestiveness of the paper goes further than the points noted. It means that a chronic irritation of some internal membrane may, by reflex action, make iteslf manifest by an obstinate skin affection. A red-nosed toper can generally be relied on to have a well-established chronic pharyngitis—often a laryngitis. If he desires to be rid of his visible annoyance the cure of his pharyngitis is necessary. Similarly the reflex skin affections starting from the stomach are examples in point. These things are not wholly new but we are liable to overlook internal causes of external conditions.

THERAPEUTICS.

By DELOS LEONARD PARKER, PH. B., M. D., DETROIT, MICHIGAN.
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SOME PRINCIPLES ON WHICH IS BASED THE THERAPEUTICS OF ELECTRICITY IN NERVOUS DISEASES.

ALPHONSO D. ROCKWELL, M. D. (*The Journal of Advanced Therapeutics,* November, 1903) presents an article on the above subject which is interesting and instructive. He begins by saying that in his opinion diseases of the nervous system, whether functional or organic, receive more benefit from a treatment employing physical methods, aided by climate and diet, than they do from a treatment essentially of drugs.

He asks why it is that so many are disappointed in the results obtained from the use of electricity in cases wherein the treatment ought to be efficacious? He then proceeds to give the reasons for the condition of affairs implied in his question. These he says are three in number:

(1) Ignorance of the physics and physiology of the method employed.

(2) Imperfect technique.

(3) Failure to appreciate the differential indications for the use of the various modalities.

Knowledge of the indications for the use of the different electric modalities (static electricity, high frequency currents, et cetera), Doctor Rockwell thinks, is the most difficult as well as the most neglected part of the art of electrotherapeutics. On account of this belief he devotes his paper to a consideration of certain abnormal conditions and the kind of electricity (modality) that is best adapted to the treatment of each.

Theoretically, he says, when with the galvanic current it is desired to diminish local nervous excitability it is proper to apply the anode to the sensitive part, thus producing a condition of anelectrotonus. To produce a contrary effect the cathode should be applied in the same manner. That is, this is the theoretical procedure derived from experiments on exposed nerves. In therapeutic application, however, a different result is often obtained, for it is found in the use of galvanic currents that the positive pole is more sedative in its effects than the negative in certain cases of which those presenting so-called pseudoneuralgias are the most common.

The chief distinction made by Doctor Rockwell between true and false neuralgia is that the latter is relieved by pressure, while the former is made worse by this treatment. Also in pseudoneuralgia it often happens that the induced current will afford relief when the continuous fails utterly.

Doctor Rockwell says that one reason why electricity relieves pain is because it stimulates vasomotor activity. Pain, he says, is due to nerve pressure, and pressure is lessened when blood is made to flow more freely through a congested part. He speaks of the effect as a sort of circulatory drainage.

In the treatment of spasmodic conditions, combined electrization, or galvanofaradization, gives the best results. This double action, however, is greatly inferior to that of a single current in relieving pain.

Continuing, Doctor Rockwell says: "Let us seek an explanation for the very positive benefits so often obtained through physical and psychical methods in such functional nervous diseases as neurasthenia and those conditions of mental disturbance that have not yet crossed the border line separating them from actual insanity."

After a description of the theory that the units of nerve structure, called neurons, are in relation to each other by contiguity rather than by continuity, and that under certain circumstances these units may contract and by so doing break connections in the nerve itself so as to interfere with the conductivity of the nerve. Doctor Rockwell says:

"The powerful influence of strong emotional excitation in dissipating certain functional nervous symptoms has long been recognized. It is believed that these purely emotional neuromotor excitations accomplish these therapeutic results by overcoming the nonconductibility of the resistant neuron. In the same way, it seems rational to believe that when a patient is placed within a field of influence of currents of high frequency, or is subjected to such influences as central galvanization, or the static wave current, the resultant effect over sensory, motor and mental symptoms is due to the power of these electric impulses to so reinvigorate the potential energy of the cell life as to open up new paths for the transmission of the nervous current. It is immaterial that the electric impulses that set in motion and regulate the wheels of industry be transmitted by any special route. The essential thing is the fact of their transmission. It is the same with nervous impulses. If new connections can be formed by the action of any physical or psychical force to take the place of those broken by disease, it matters not so long as they are sufficient to transmit the natural nerve force, upon the free transmission of which depends the perfection of every mental and bodily activity."

EDITORIAL COMMENT.

SOME OF THE MEDICOLEGAL ASPECTS OF CRIMINAL ABORTION.

RECENTLY a Detroit physician was arrested on the charge of criminal abortion. His story, which is borne out by the antemortem statement of the patient, is that the latter induced the abortion by instrumental means before placing herself under his care. An operation was performed at the physician's house. The patient grew worse and was sent to a hospital, where a second operation was performed for puncture of the uterus, the patient surviving but a short time. A postmortem examination showed septic poisoning from perforations of the intestines and uterus. The prosecuting attorney was called into the case before the death of the patient. In spite of the latter's testimony, corroborating the physician's story, in the eyes of the law, the circumstances were suspicious enough to warrant the arrest of the physician.

* * *

Whatever may be the merits of this particular case, and medical men should be the last to judge a practitioner guilty until so proven by law, it serves a useful purpose in again bringing certain questions to the attention of the profession of the state. What course should a physician pursue when called upon to treat a patient who either has produced the abortion herself, or has accomplished her purpose through outside assistance? Unquestionably no physician should have anything to do with such a case until he has called in the best counsel obtainable. He should insist upon a consultation for two reasons: first, because he does not wish to bear the responsibilities of such a case alone; and second, because he needs a witness in case legal complications arise. Evidently the best possible witness he can summon is a practitioner in good standing in the community. The testimony of such a man would be far more valuable than would be the same testimony from a layman.

* * *

The physician owes it to himself, his family and his professional reputation to employ every means of protection in these cases of criminal abortion. It is too often the case that the abortionist accomplishes his end by instrumental means, collects his fee, and leaves it for someone else to save the life of the patient. The latter must be cared for, and no true physician refuses to do his duty by such cases. However, there is no need of doing this in such a manner as to arouse suspicion in the eyes of the public in case of death of the patient. Recklessness and a lack of foresight do not redound to the practitioner's credit, nor do they enable him to render any better service to his patient. Even the summoning of a consultant does not always free the parties from suspicion in certain cases. Not long ago, such a case occurred in New York, where in spite of all precautions, two reputable practitioners were charged with having produced a criminal abortion. Later it was shown that their statements were true and that they had assumed charge of the case after the crime had been committed.

* * *

Prosecutors are at times either too zealous or lack judgment in sizing up the circumstantial evidence in certain cases. Hence, even when the physician has protected himself to the best of his ability, he may be called upon to defend himself. Usually, however, if his testimony be supported by that of an equally reputable physician, the judge will either throw such a case out of court, or a jury will acquit without leaving their seats. The Michigan statutes do not seem adequately to cover the situation under discussion except by implication. The law states that every person who shall wilfully produce a miscarriage resulting in the death of mother or child, unless the same shall have been necessary to preserve the life of the mother, or shall have been advised by two physicians to be necessary for such purpose, shall be deemed guilty of manslaughter. By implication, also, according to the first portion of the statute, wherein occurs the phrase "unless the same shall have been necessary to preserve the life of the mother," the physician in remote country districts, where a consultant is not always to be obtained, is adequately protected. The physician under these circumstances does the best he can for his patient. His defense, in case of legal complications, being his statement of the case to the jury.

* * *

Should the physician secure a statement from the patient as to how, when, or by whom the abortion has been committed before he assumes any responsibility of the case? In a general way the answer would be in the affirmative. Whenever possible, he should have the patient state the facts in the case before a witness or witnesses, but he should not go out of his way to secure a written statement. In case of legal complications arising from the subsequent death of the patient, an attorney could seize very easily the opportunity of impressing upon the jury the possibility of the physician's having acted under the spur of a guilty conscience and the probability that he had committed the abortion himself.

After all, the physician's main defense lies in the reputation he has established in his own community. This defense becomes well nigh impregnable when supported by the sworn testimony of another physician of irreproachable reputation. Is it not well for the young practitioner to bear this ever in mind? Day by day he is establishing his reputation for honesty and uprightness in his professional work or vice versa. Woe unto him if, in his hour of need, his community as one man does not rise up and proclaim faith in his innocence. R. P.

CONTEMPORARY.

SANITARY SUPERVISION OF PUBLIC WATER SUPPLIES A PROTECTION TO PUBLIC HEALTH.

[BOSTON MEDICAL AND SURGICAL JOURNAL.]

THERE can be no question that money invested in sanitary measures intended for the protection of the public health, and the consequent saving of human life, is well invested, and in the long run will yield profitable returns. Too often does it happen that the truth of the old proverb, "When the steed is stolen shut the stable door," is recognized only too late to prevent serious illness and loss of human life.

This principle is frequently illustrated in the indifference of many communities to the importance of providing every possible means of protection for public drinking water supplies. In Pennsylvania the people have paid dearly for this wanton neglect, as shown in the long-continued pollution of the water supply of Philadelphia, and the serious outbreaks of disease which have taken place at Plymouth and at Butler.

In Massachusetts the question of water pollution has been a subject of frequent discussion by legislatures, medical societies and social organizations for a third of a century, the result being the enactment of a general statute in 1886 placing all public water supplies under the supervision of the State Board of Health. Under the provisions of this act the work of introducing new supplies and of improving those already existing has gone rapidly forward until, at the present time, over ninety per cent of the population of the state is supplied with public water, mostly of good and wholesome quality.

A valuable index of the purity of the water supplied to a community is the amount of typhoid fever prevalent among the people thus supplied, as shown either by the mean annual number of cases, or of deaths from this disease as compared with the existing population.

In Massachusetts during the years preceding the general introduction of public water supplies, for example, the ten years 1856-65, the death rate from typhoid fever throughout the state was high, at nine or ten out of each ten thousand inhabitants, but since such introduction it has rapidly fallen until in the last year (1902) the death rate from this cause was not over two per ten thousand, or less than one-fourth of its former rate.

In the report of the State Board of Health for 1896 a diagram is published in which the death rate from typhoid fever and the percentage of persons not supplied with public water are shown in two parallel and descending lines, which are nearly coincident throughout the period of forty years. It is among this class of persons not supplied with public water that typhoid fever is most prevalent. What may be properly termed epidemics of such illness appear to be a thing of the past in Massachusetts. When, therefore, a limited outbreak occurs like that which was reported in Lowell in September last, or the occurrence of a dozen or more cases at Williamstown, public suspicion is unduly aroused, since even these limited outbreaks are of rare occurrence.

In Pennsylvania, however, the outbreak at Butler has assumed a seriously epidemic form, since here there were one thousand two hundred cases in a population of eighteen thousand, or more than seven per cent, a ratio exceeding any that have occurred in Massachusetts in recent years at least thirty-fold, and this is only a repetition of the severe epidemic which proved so disastrous at Plymouth in Pennsylvania a few years earlier. Recent advices from Butler show that the probable cause of the epidemic in that town was due to the existence of cases of typhoid fever upon the watershed of the public supply at a time when repairs were being made in the filtering plant, which allowed unfiltered water to be supplied to the inhabitants.

In the state of Vermont, with less than three hundred fifty thousand inhabitants, the Legislature appropriates ten thousand dollars a year for the use of its State Board of Health, while the Legislature of Pennsylvania, a state having a population of six million, makes a niggardly appropriation of six thousand dollars for all sanitary purposes.

In Massachusetts liberal provision is made for special work in the protection of the purity of public water supplies, and the State Board of Health is given general supervision of this work. By this means the Board is enabled to assume a careful oversight of all the water supplies in the state, both those of municipalities and those of private corporations. It makes regular and systematic examinations of the waters, provides rules and regulations for the sanitary protection of such supplies, gives advice to the authorities of cities and towns, gives warning of impending danger from pollution and from lead poisoning, and by these means affords a protection the value of which is far beyond the amount expended in carrying out the provisions of the law.

MEDICAL NEWS.

PASSINGS DUE TO PNEUMONIA.

Doctor George J. Engelmann, formerly of Saint Louis, the city of his birth, but a resident of Boston since 1895, died at Nashua, New Hampshire, November 16, 1903, pneumonia being the fatal illness. The doctor was born July 2, 1847, and graduated at Washington University in 1867, later receiving the degree of A. M. from the same institution. His medical education was acquired in European universities, and his professional career was inaugurated in the Franco-Prussian war of 1870 and 1871, where he rendered service in the German army. He returned to his native city in 1873 and pursued the practice of medicine until his removal to Boston, gynecology being the department of medicine which enlisted his special attention. He was professor of this branch in the Missouri Medical College for a number of years, resigning in 1894; trustee of the Missouri Botanical Gardens at Saint Louis from 1880 to 1894; founder of the Saint Louis Obstetrical Society; president of the Southern Surgical and Gynecological Society in 1890; charter member and later (1900) president of the American Gynecological Society; honorary president of the gynecological section of the International Medical Congress in 1884; honorary president of the International Congress of Obstetrics and Gynecology at Brussels in 1892, Amsterdam in 1899, Rome in 1902; and president of the Boston Obstetrical Society. He was not only a student of medicine but of ethnology and archeology as well, and the Peabody Archeological Museum at Cambridge and the Smithsonian Institute at Washington are recipients of various and valuable collections made by him. Doctor Englemann was an extensive traveler, a fluent talker, and a ready writer, one of his latest contributions to medical science being on the subject of "Sterility."

* * *

DOCTOR CYRUS EDSON, of New York City, died of pneumonia at Roosevelt Hospital in that city on December 3, his illness being of brief duration. He was born at Albany, New York, on the 8th of December, 1857, and was a son of Franklin Edson, an ex-mayor of Gotham. His academic education was received at Columbia University, and in 1881 he graduated in medicine at the College of Physicians and Surgeons of New York. The following year he was appointed assistant sanitary inspector in the New York Health Department, and eventually, by process of gradual promotion, became chief inspector of the Second Division. He was appointed president of the Board of Health in 1891. He occupied various other positions at different times, notably president of the Board of Pharmacy; vicepresident of the American Society of Public Analysts; visiting physician to Charity Hospital; and assistant surgeon of the twelfth regiment of the New York State National Guard. The distinction of being one of the famous Columbia crew which won the Henley cup in 1878 was likewise his lot.

MINOR INTELLIGENCE.

THE Index to Volume XXV will be mailed in an early number.

THIRTY children were poisoned recently by impure milk at the County Orphanage located at Fresno, California.

PATTI, the world-renowned singer, has bequeathed her larynx (after her demise, so report says) to the museum of the Royal College of Surgeons.

THE census bulletins announce that the average age at death in 1890 was 31.1 years, while in 1900 it was 35.2 years.

PROFESSOR VIRCHOW'S valuable library, which contains over seven thousand volumes, has been presented to the Berlin Medical Society by his widow.

THE registered pharmacists in the United States are said to number forty-three thousand. In Great Britain the number is estimated at fifteen thousand six hundred.

THE Sante Fé Railway Company has decided to build a hospital at Los Angeles, California, for its employees. The estimated cost of the structure is forty thousand dollars.

DOCTOR WALTER LINDLEY has been elected dean of the College of Medicine of the University of Southern California, vice Doctor James McBride, who recently resigned the position.

THE medical colleges in Ohio have suffered a decrease in freshman attendance this year, presumably because the requirements are more exacting and the fees somewhat higher than heretofore.

DOCTOR JAY L. MCLAREN, of Eureka, California, formerly of Saginaw, Michigan, has disposed of his interest in the Sequoia Hospital Association, and contemplates enjoying an Eastern trip.

A CHARTER has been issued for the College of Physicians and Surgeons which will be opened at Los Angeles, California, in the fall. The originators of the plan will also erect a hospital to be conducted in connection with the college.

NEW YORK CITY has over eight hundred cases of pneumonia, an increase of forty per cent over the number during the same period of last year. The Health Board now proposes to compel notification by physicians of all cases of the disease.

THE Western Reserve University is the recipient of an endowment fund of one hundred thousand dollars, the generous gift of Mr. H. M. Hanna. The money will be utilized for the express purpose of advancing scientific medicine in the domain of anatomic research.

MANILA has seven hospitals affording accommodation for two thousand four hundred fifty patients. Four are under military control, one is supported by the charity of Chinese merchants for the sick of their race, and one is for the reception of lepers exclusively.

ARABIAN physicians prepare their own prescriptions, which is an easy task owing to the fact that they have a cinch on the therapeutics of disease. The remedies administered consist, regardless of the malady, of verses or texts from the Koran rolled into pellets.

DOCTOR WILLIAM S. THAYER, Chairman of the Tuberculosis Commission, caused the arrest of a Baltimore gentleman recently, for spitting on the floor of a street car. The offender was taken before a justice, where a fine of one dollar was imposed for violating the spitting ordinance.

THE aggregate bequests recently made to the Harvard Medical School by J. Pierpont Morgan, John D. Rockefeller and others is $2,821,225. The school's real estate and former endowment, including the above amount, has now reached a valuation of about $5,000,000.

HASHEESH, the Egyptian drug, is said to be a primary cause of insanity among the inhabitants of that country. Its use leaves no physical marks as does the prolonged use of alcohol, an exception being the staggering gait, but the drug has a very deleterious effect upon the mental powers.

DURING the past year fifty-eight thousand three hundred eighty-one seamen received treatment from the Marine Hospital Service, which is an increase of more than two thousand patients over the preceding year. One thousand three hundrd sixty-nine surgical operations, requiring the use of anesthetics were performed.

PLAGUE in India is said to be reaping a greater harvest than at any time since its outbreak seven years ago. During this period over two million people have fallen victims to the terrible malady, which the English authorities seem powerless to check. Isolation, segregation and inoculation have been tried without avail.

IN a report to the New York Association for Improving the Condition of the Poor, John Seely Ward, who has made an extended stay in Europe investigating consumption hospitals for children, public baths, et cetera, advocates that the association erect near New York a hospital for the treatment of tuberculous children.

DOCTOR J. G. NEAL, a prominent surgeon of Santa Rosa, California, recently died of septicemia. He was a native of Kentucky, had practiced in Santa Rosa about six years, and left an estate valued at five thousand dollars, claimants for which will probably be many, although his nearest relatives consist of a brother and two sisters.

A NOVEL, yet practical, method of destroying rats, which select large ships as their place of habitation, has been perfected by a Frenchman. Carbonic acid gas is the agent employed, it being carried to the hold of the ship by means of an iron pipe, and allowed to remain there for some time. The gas, while suffocating the rodents, does not injure the cargo.

A VERY unique occupation is that held by a Los Angeles woman, who serves in the capacity of detective for a local medical society. The office of this woman is to visit physicians who are suspected of practicing without licenses, and have them prescribe for certain ills which she assumes to have. With this evidence as support the society institutes legal proceedings.

A NEW YORK negress has given birth to quadruplets, two boys and two girls. The case is noteworthy because of the fact that the males are white and do not possess the characteristic curly hair of the negro, while the girls, dark at birth, are gradually assuming a distinct ebony hue. The combined weight of the infants at delivery was nineteen pounds and seven ounces.

Doctor Arthur C. Probert, vicepresident of the Christian Hospital, of Chicago, was recently fined five hundred dollars and costs for fraudulent use of the mails. He was arrested several months ago on complaint of Doctor John B. Murphy and others whose names were used on "certificates" of the hospital without authority and for the purpose of swindling members of the profession.

The New Hampshire State Board of Health has been experimenting with so-called antidiabetic gluten flour. Fourteen brands of the product of a half dozen firms were analyzed, and notwithstanding the fact that these flours are advertised as healthful for diabetic patients because of nearly absolute gluten constitution, careful analytical examination revealed an average of almost forty-eight per cent of starch.

Doctors B. C. Thomas, J. S. Kennedy, E. B. Herrick, A. A. Walter, J. D. Kergan, J. A. Houghson, and J. A. Lonsdale, all medical practicians of Detroit, have been cited by the State Board of Registration in Medicine to appear before that body and show cause why their licenses should not be revoked. This action is taken in accordance with the law recently enacted to prevent the publication of objectionable medical advertisements.

The Indiana State Nurses' Association was organized last month at Fort Wayne, Indiana, when the following officers were elected: President, Mrs. Fournier, of Hope Hospital, Fort Wayne; first vicepresident, M. Henderson, of Union Hospital, Terre Haute; second vicepresident, L. Hill, of Fort Wayne; secretary, Mary Scott, of Indianapolis; treasurer, Florence Grant, of Indianapolis. The next meeting will be held at Indianapolis in February.

The average yearly consumption of tobacco is greater in the United States than in any other country of the world. Statistics of the countries recording addiction to the habit in noteworthy degree are as follows: Netherlands, 3,400 grams; United States, 2,110; Belgium, 1,552; Germany, 1,485; Australia, 1,400; Austria and Hungary, 1,350; Norway, 1,335; Denmark, 1,125; Canada, 1,050; Sweden, 940; France, 933; Russia, 910; Portugal, 850; England, 680; Italy, 635; Switzerland, 610, and Spain, 550.

Statistics discloses the fact that on November 1 there were 5,423 insane persons under public care in Wisconsin. This number shows an increase of 248 during the last sixteen months. The Northern Hospital at Oshkosh has 599 patients; the State Hospital at Mendota, 403; the Milwaukee Hospital, 499. The remainder of the patients are distributed throughout the counties of the state as follows: Brown, 121; Chippewa, 142; Columbus, 101; Dane, 156; Dodge, 122; Dunn, 126; Eau Claire, 124; Fond du Lac, 110; Grant, 129; Green, 113; Iowa, 122; Jefferson, 127; Lacrosse, 146; Manitowoc, 160; Marathon, 167; Monroe, 50; Milwaukee, 220; Outagamie, 137; Racine, 131; Richland, 110; Rock, 150; Sauk, 116; Saint Croix, 139; Sheboygan, 118; Trempealeau, 108; Vernon, 117, Walworth, 125; Waupaca, 106; Washington, 126; Winnebago, 203.

THE Association of Assistant Physicians of the Ohio State Hospitals held its second meeting at the Toledo State Hospital October 7 and 8, 1903, Doctor George T. Harding, Junior, of Columbus, in the chair. A number of important papers were read and discussed, and resolutions were adopted in furtherance of the movement directed toward the establishment of a Central Pathological Institute for teaching and research in connection with the State Hospitals of Ohio.

HEALTH OFFICER KIEFER recently appeared before the Detroit Board of Education committee on sanitation and plead for reform regarding the drinking-cup system in vogue in the public schools. He informed the committeemen that since July 1 one hundred six persons had died of diphtheria, and urged that as much precaution be exercised to obviate the spread of diphtheria as is accorded to smallpox. He suggested that pupils be required to procure individual cups, or that fountain faucets, such as have been installed in the Ann Arbor schools, be adopted. Individual lead pencils and the fumigation of school books were matters likewise brought to the attention of the committee by Doctor Kiefer.

THE seventh general conference of health officials in Michigan, under the auspices of the Michigan State Board of Health, was held in the new medical building of the University of Michigan, at Ann Arbor, Thursday and Friday, January 7 and 8, 1904. The objects of the conference were: "The presentation of facts and the general comparison of views by the health officers and other delegates of local boards of health, among themselves, with the members of the State Board of Health and with those in charge of the State Laboratory of Hygiene, and especially with reference to the duties of supervisors, and other presidents of local boards of health, health officers, and other officials, relative to the restriction of the dangerous communicable diseases and relative to other subjects bearing upon the public health service of the State."

THE Michigan death rate for November was twelve and nine-tenths per one thousand population. Two thousand six hundred twenty-three deaths occurred during the month, one less than for the preceding month. There were four hundred twelve deaths of infants under one year; one hundred seventy-one deaths of children between one and four years, inclusive; seven hundred eighty-nine deaths of elderly persons, all over sixty-five years of age. Pulmonary tuberculosis caused one hundred fifty-eight deaths, while other forms of this disease were responsible for the demise of twenty-seven; typhoid fever caused eighty deaths; diphtheria and croup, one hundred twelve; scarlet fever, fourteen; measles, seven; whooping-cough, twenty-eight; pneumonia, two hundred six; cancer, one hundred forty; while one hundred ninety-four yielded the ghost to accidents and violence. Diphtheria, scarlet fever, and other diseases peculiar to children indicated an increase, while tuberculosis and typhoid fever did not register as high as during October.

Although the white population of the United States is from ten to sixteen per cent greater than the colored, statistics show that while four hundred twenty-eight negroes died from tuberculosis during the past five years, only one hundred twenty-seven whites succumbed to the malady. The Ethiopian was not prone to this disease in his savage state and the susceptibility of the race to consumption at the present time may be due to a more advanced state of civilization and the adoption of indoor habitations.

The Cleveland Medical Library Association held its annual meeting on Monday evening, the 14th instant. The reports submitted by the officers showed that the gain in the number of books equalled that of former years; that the indebtedness has been reduced during the year by nearly three-quarters; and that the increase in membership has been above the average. Officers for the ensuing year were elected as follows: President, Doctor Dudley P. Allen; vicepresident, Doctor David H. Beckwith; secretary, Doctor George W. Moorehouse; treasurer, Doctor Harris G. Sherman; librarian, Doctor Carl A. Hamann. Fifteen trustees were also elected for a period of three years. The sum of two hundred thirty-five dollars was subscribed by the members for the book fund, Doctor Daniel Millikin, of Hamilton, delivered an address on "The Irrepressible Savage," and the meeting was concluded with a smoker and refreshments.

RECENT LITERATURE.

REVIEWS.

LANDMARKS IN GYNECOLOGY.*

This is a curious volume, a mixture of good and bad, all jumbled up into one heterogenous mass. There seems to be little reason for the title of the book. The author may have had a definite plan in compiling the book, but it is not apparent to the reader. "Landmarks in Gynecology" have about as much signification as the "Circle of Byron Robinson." Facts known for years, and forming a part of every textbook, are stated so as to give the impression of being original with the author. The whole book is confusing and unsatisfactory. Yet, if one has patience and eliminates the peculiarities of plan and style, there are certain facts of value to be rescued from much that is the opposite. The author has been industrious and the book evidently represents considerable work at the dissecting and postmortem tables. These researches go far to counterbalance the peculiarities of the work set forth above.

*By Byron Robinson, M. D. Published by E. H. Colgrove, Chicago.

PROGRESSIVE MEDICINE.*

THE volume for the quarter ending December, 1903, is devoted to "Diseases of the Digestive System," "Genitourinary Diseases," "Surgery of the Extremeties," "Diseases of the Kidneys," "Physiology," "Hygiene" and "Therapeutics." The work is in keeping with the high standard maintained by the previous issues. No book comes to our table with a warmer welcome than "Progressive Medicine." It is issued every three months and contains all that is good in medicine and surgery. The publishers have decided to change somewhat the style of the volumes with the advent of the new year and reduce the price from $10.00 to $6.00 per annum. The same editorial management will be retained.

*By Hobart Emory Hare, *et al.* Lea Brothers & Company, Philadelphia and New York.

THE FOUR EPOCHS OF A WOMAN'S LIFE.*

THIS little book contains many a thought which should prove of great advantage to the vast majority of women ignorant, as the most of them are, of the subjects the author considers. Matters not usually discussed in print are set forth intelligently, delicately and concisely. Just why it is considered proper for the young maiden to have a knowledge of all that makes up our modern civilization as set forth in lurid novels and the daily press, yet improper for the same young woman to have a knowledge of her sexual apparatus is hard to explain. The author surely has struck the right note and it is only to be regretted that the book is not more comprehensive. It can be heartily recommended to the class of patients for whom it is intended.

*A Study in Hygiene. By Anna M. Galbraith, M. D. Published by W. B. Saunders & Company, Philadelphia and London.

PRINCIPLES AND PRACTICE OF GYNECOLOGY.*

ANY work which reaches a third edition in the comparatively short time this book has been at the disposal of the medical public must possess qualities far above the ordinary. Such is the case with this admirable text-book, whose friends multiply with each successive edition. The general plan of the first and second editions has been retained in the third edition. Many chapters have been entirely rewritten and show the results of the careful and conscientious work for which the author is renowned. The illustrations have been added to and are of much better quality, thus eliminating criticism which was applied freely to the first edition.

Of special value to the student and teacher are the tables and parallel columns for differential diagnosis. These have been greatly enlarged and improved in this latest edition.

*By E. C. Dudley, Chicago. Third edition. Published by Lea Brothers & Company, Philadelphia and New York.

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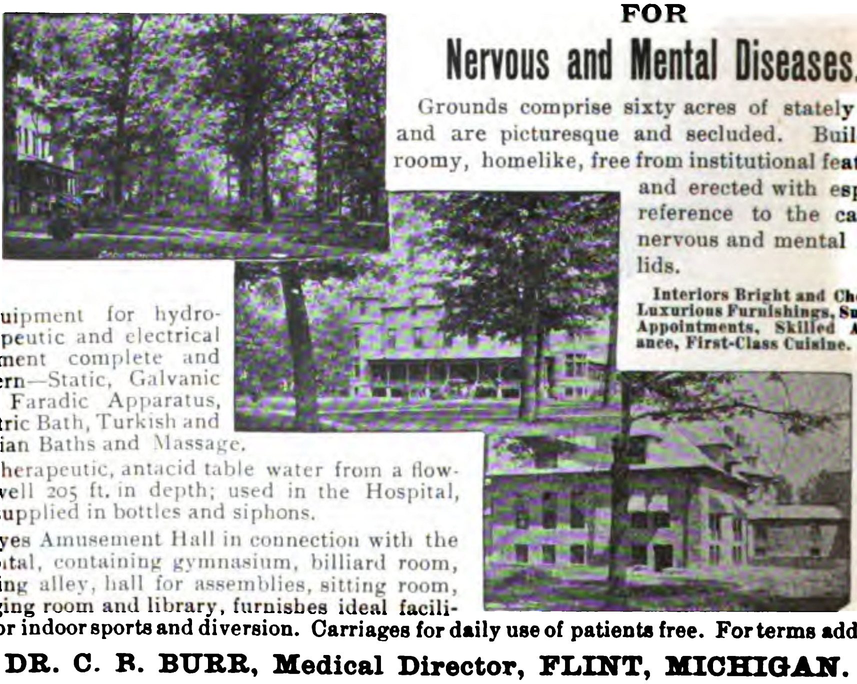

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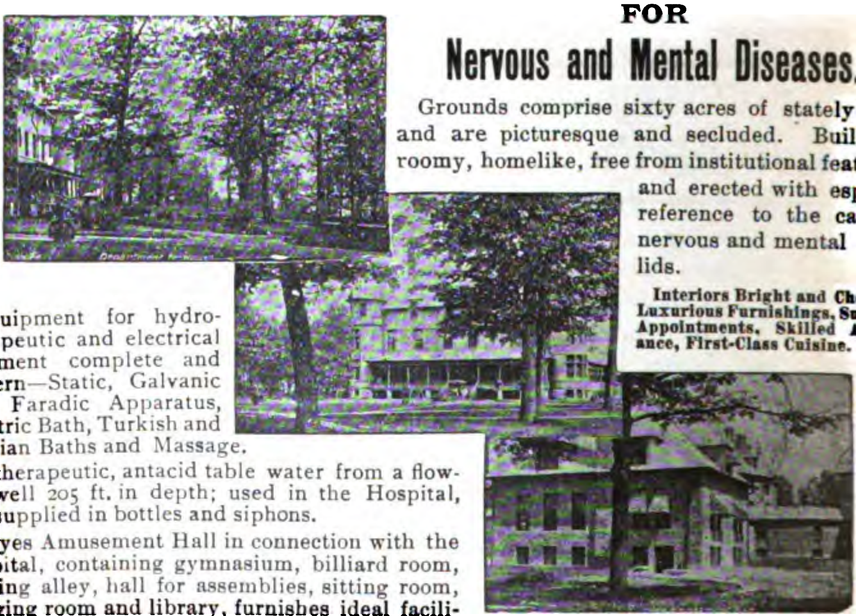

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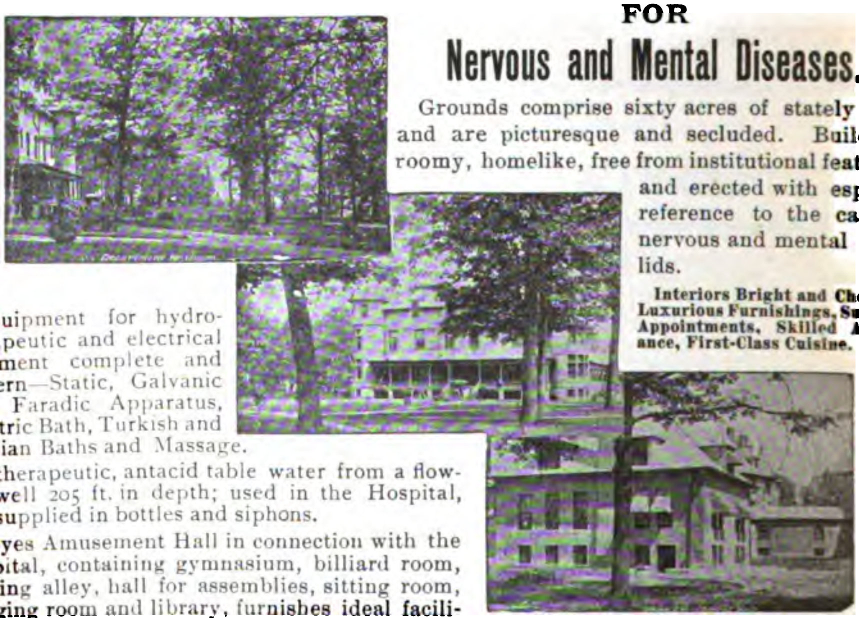

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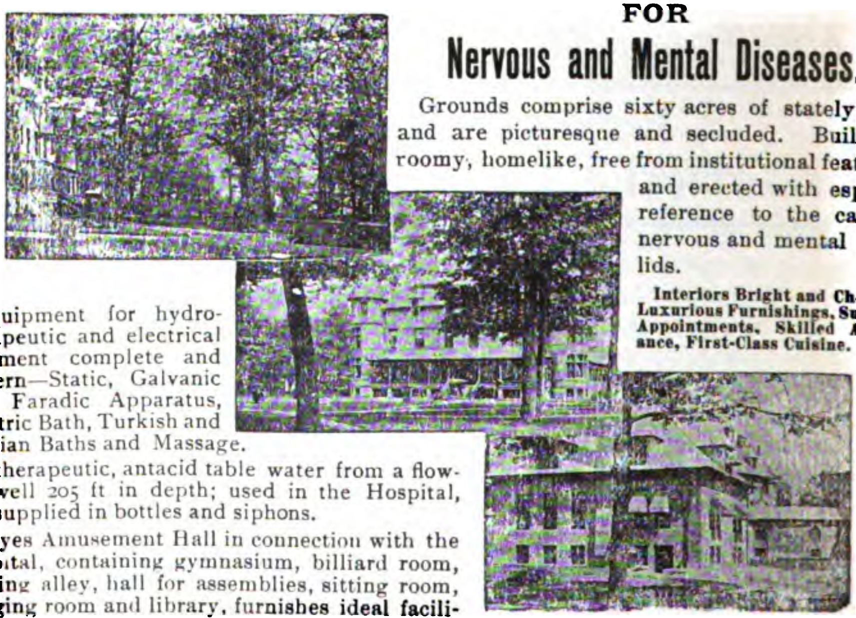

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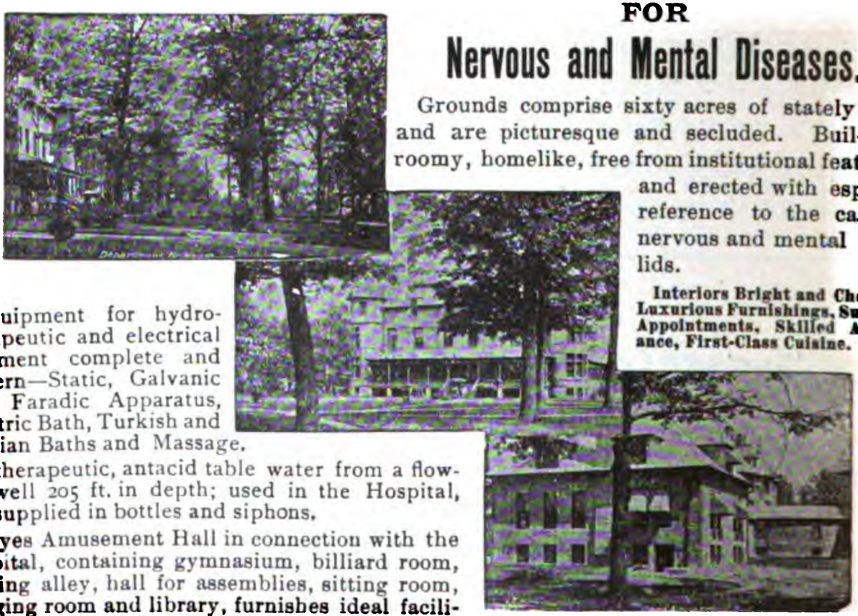

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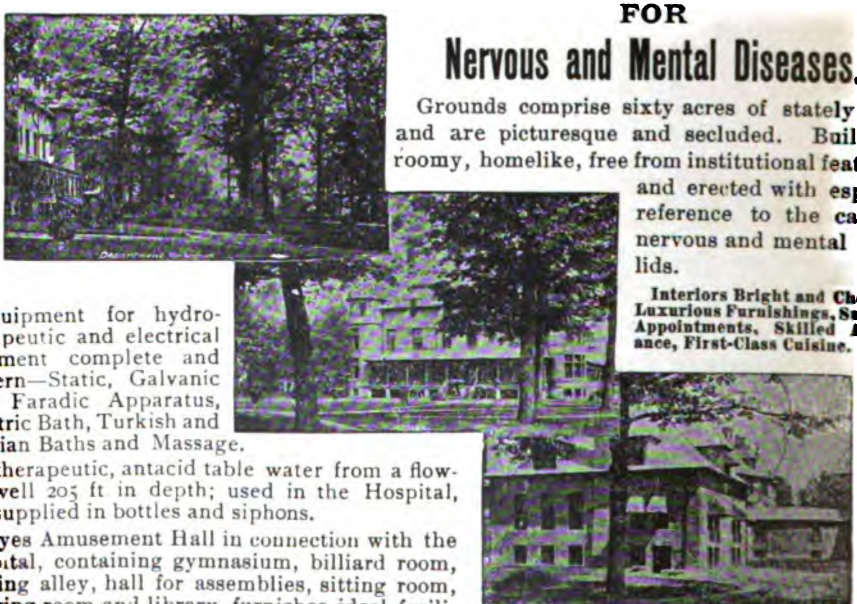

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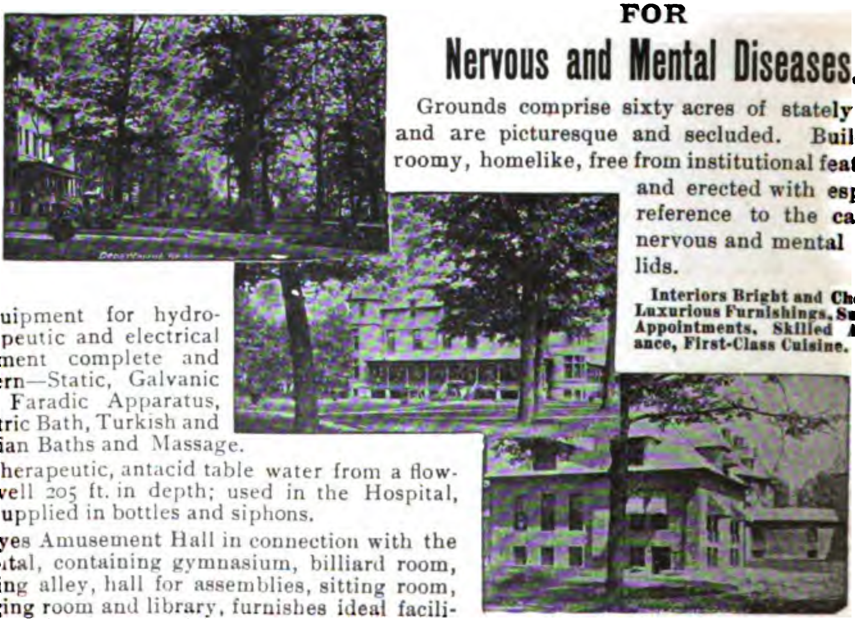

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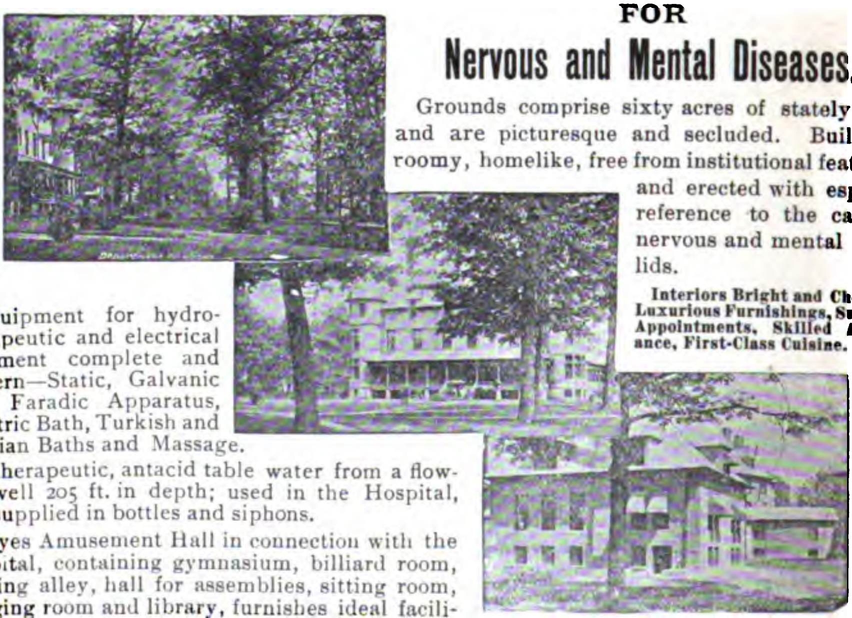

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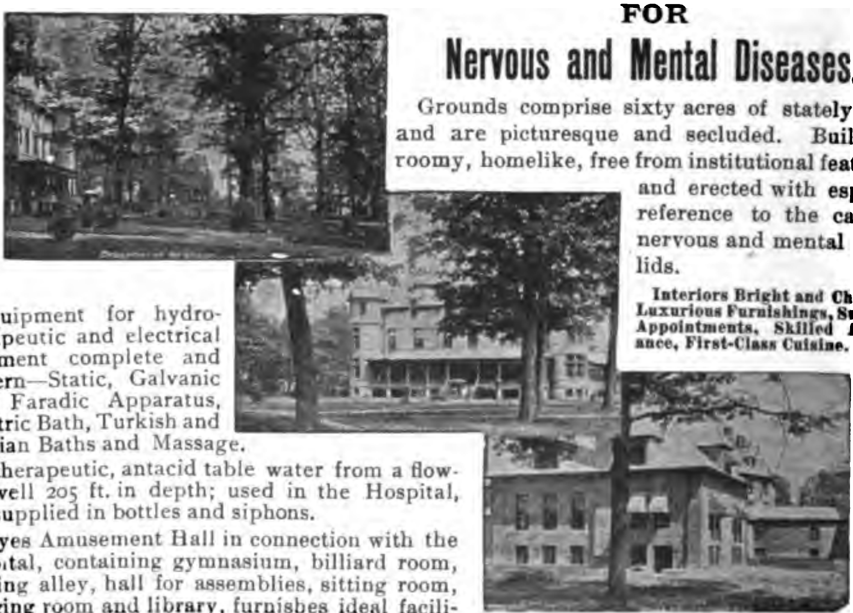

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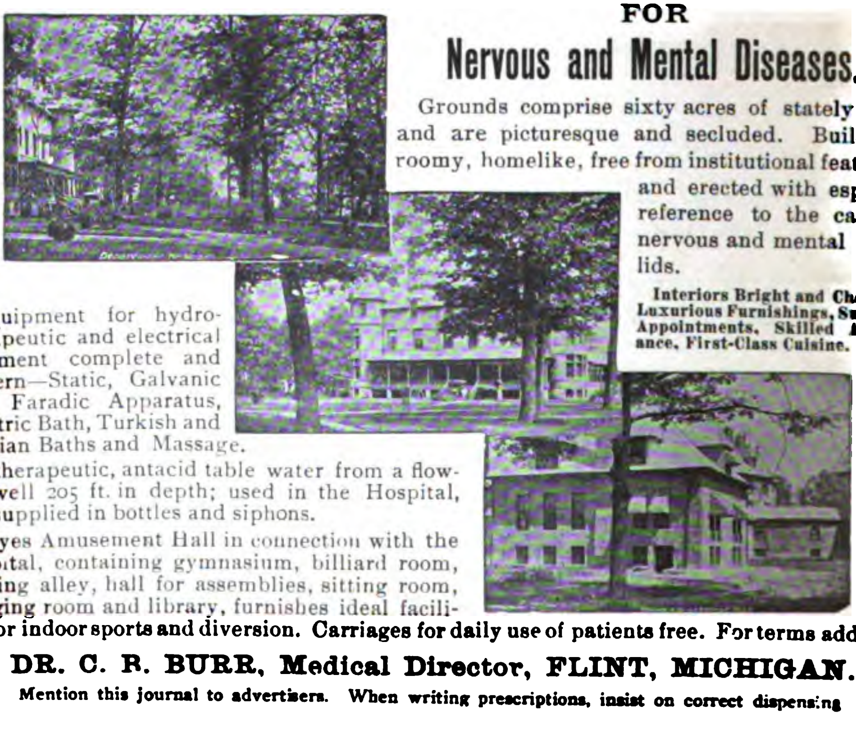

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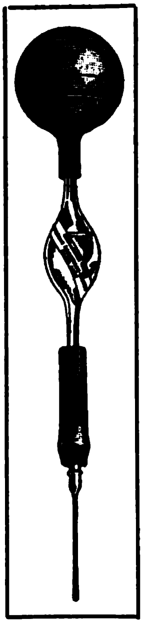

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